Catalogue no. 11-633-X — No. 1
ISSN 2371-3429
ISBN 978-0-660-05560-2

Analytical Studies: Methods and References

Hiring and Layoff Rates by Economic Region of Residence: Data Quality, Concepts and Methods

by René Morissette, Wen Ci, and Grant Schellenberg

Release date: June 27, 2016

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. not available for any reference period
.. not available for a specific reference period
... not applicable
0 true zero or a value rounded to zero
0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

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Hiring and Layoff Rates by Economic Region of Residence: Data Quality, Concepts and Methods

by

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Social Analysis and Modelling Division

Statistics Canada

11-633-X No. 001

ISBN 978-0-660-05560-2

June 2016

Analytical Studies: Methods and References

Papers in this series provide background discussions of the methods used to develop data for economic, health, and social analytical studies at Statistics Canada. They are intended to provide readers with information on the statistical methods, standards and definitions used to develop databases for research purposes. All papers in this series have undergone peer and institutional review to ensure that they conform to Statistics Canada's mandate and adhere to generally accepted standards of good professional practice.

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Abstract

Every year, thousands of workers lose their jobs as firms reduce the size of their workforce in response to growing competition, technological changes, changing trade patterns and numerous other factors. Thousands of workers also start a job with a new employer as new firms enter a product market and existing firms expand or replace employees who recently left. This worker reallocation process across employers is generally seen as contributing to productivity growth and rising living standards. To measure this labour reallocation process, labour market indicators such as hiring rates and layoff rates are needed. In response to growing demand for subprovincial labour market information and taking advantage of unique administrative datasets, Statistics Canada is producing hiring rates and layoff rates by economic region of residence. This document describes the data sources, conceptual and methodological issues, and other matters pertaining to these two indicators.

1 Introduction

Demand for labour market information at subprovincial levels of geography comes from many stakeholders. Information about local labour markets informs discussions about the state of the Canadian economy and the challenges and opportunities faced by firms and individuals in specific areas.

Administrative data files, such as those containing records of the T1 Income Tax Return and the T4 Statement of Remuneration Paid (T4 slip), are valuable sources of information from which small-area labour market information can be derived. Such files contain the large number of observations needed to generate reliable estimates for small areas as well as the postal code information needed to organize these estimates into subprovincial geographic areas.

Information from several administrative data files has been used to create hiring rates and layoff rates for 69 economic regions across Canada.

This document describes the data sources, conceptual and methodological issues, and other matters pertaining to these two indicators.

Because the subprovincial information available in the aforementioned data sets relates to the location of residence, the labour market indicators discussed in this document are defined at the economic region of residence, rather than the economic region of employment. Hence, the indicators will shed light on **how residents of a given economic region fare in the Canadian labour market** rather than **how the economy of their region fares compared to other local labour markets.** Readers should keep this distinction in mind throughout the document.

2 Data sources

The labour market indicators described in this document are estimated using a subset of linked administrative data files from the Canadian Employer–Employee Dynamics Database (CEEDD). The CEEDD contains information on all firms in Canada that filed a T2 Corporation Income Tax Return, issued a T4 Statement of Remuneration Paid (T4 slip), or remitted a PD7 (statement of account for current source deductions) to the Canada Revenue Agency, as well as information on the paid workers they employ. The administrative data files used to construct labour market indicators of economic regions of residence in Canada are:

- **T1 Personal Master File (T1PMF) from the Canada Revenue Agency:** Information on the demographic and financial characteristics of individuals is drawn from the T1 tax records.
- **T4 records from the Canada Revenue Agency:** Job-level information on employment income and the pension adjustment amount is drawn from T4 records.
- **Record of Employment (ROE) from Employment and Social Development Canada:** Job-level information is drawn on the reason for job termination.
- **National Accounts Longitudinal Microdata File (NALMF):** The NALMF, constructed and maintained by Statistics Canada, contains employment information on businesses in Canada (both incorporated and unincorporated) that issue a T4 slip to one or more employees for tax purposes. This file is used to identify individual-level transitions between employers.[1]

Indicators are provided for the period from 2003 to 2011.

Some concepts: employees, workers, wages and salaries, and earnings

In this document, the terms 'employees' and 'paid workers' are used interchangeably and refer to individuals who have at least one paid job at some point in year t but have no self-employment income during that year.[2] The term 'workers' includes both employees and self-employed individuals. Self-employed individuals are defined as individuals who have self-employment income in year t, regardless of whether they also have employment income from a paid job. Annual earnings equal annual wages and salaries plus net income from self-employment.

3 Economic region of residence[3]

An economic region (ER) is a grouping of complete census divisions (CDs) (with one exception in Ontario) created as a standard geographic area for analysis of regional economic activity. Such an area is small enough to permit regional analysis, yet large enough to still be able to release a broad range of statistics after data are screened for confidentiality.

The regions are based upon work by Camu, Weeks and Sametz (1964). At the outset, boundaries of regions were drawn in such a way that similarities of socio-economic features within regions were maximized while those among regions were minimized. Later, the regions were modified to consist of counties which define the zone of influence of a major urban centre or metropolitan

1. As Rollin (2014, p. 306) states: "NALMF links enterprises that report data in the main business administrative files, those relating to payroll, corporation income tax, goods and services taxes, and imports or exports. To create a comprehensive database, these data were linked through Statistics Canada's Business Register (BR) because it provides the central structure describing enterprises and contains additional key enterprise characteristics such as the industry and nationality of ownership."
2. When statistics refer to a given reference week, the terms 'employees' and 'paid workers' are used interchangeably and refer to individuals who have at least one paid job but are not self-employed during that week.
3. For more information, see Standard Geographical Classification (SGC) 2011 – Volume 1, the classification from Statistics Canada (http://www.statcan.gc.ca/eng/subjects/standard/sgc/2011/index).

area. Finally, the regions were adjusted to accommodate changes in CD boundaries and to satisfy provincial needs.

An ER is a geographic area, smaller than a province, except in the case of Prince Edward Island and the Northwest Territories. The ER is made up by grouping whole CDs, except for one case in Ontario, where the city of Burlington, a component of Halton (CD 35 24), is excluded from the ER of Toronto (ER 35 30) and is included in the Hamilton–Niagara Peninsula ER (ER 35 50), which encompasses the entire census metropolitan area (CMA) of Hamilton.

ERs may be economic, administrative or development regions. Within the province of Quebec, ERs are designated by law (*les régions administratives*). In all other provinces, ERs are created by agreement between Statistics Canada and the provinces concerned.

The labour market indicators presented in this document are based on individuals' ER of residence. Individuals' ER of residence is derived from the postal code information on their T1 tax record. The postal codes from T1 tax records measure individuals' ER of residence around December of year $t+1$, i.e., at the time the T1PMF is created.[4]

Comparing the economic region of residence and the economic region of work

As noted above, the ER of residence refers to the location in which Canadians live, not the location in which they work. Some residents of ER 'a' (for example, Laval) may be employed in ER 'b' (for example, Montréal) and conversely, some residents of ER 'b' may be employed in ER 'a'. The 2006 Census provides some information on this issue as long-form respondents were asked where they had worked during the census reference week (i.e., the week prior to May 16, 2006) or, if they were not employed that week, where their longest job was located during the previous year.

Table 1 selects individuals aged 18 to 64 who were employed as paid workers during the census reference week and shows what percentage worked in their ER of residence at that point in time. Overall, 91% of these employees worked in their ER of residence.

This average masks important differences across ERs. While 9 Montréal residents out of 10 worked in (the ER of) Montréal, no more than 4 Laval residents out of 10 worked in (the ER of) Laval. Likewise, while 94% of Ottawa residents worked in Ottawa, less than two-thirds of Outaouais residents worked in the Outaouais. In 52 ERs out of 69, 90% or more of employed individuals worked in their ER of residence. These ERs account for 77% of the population of employed individuals. Hence, for the majority of ERs and residents, the concept of ER of residence is closely tied with the concept of ER of employment.

Nevertheless, the fact that in some cases, most residents work outside their ER of residence is important. It highlights the importance of reminding data users that the labour market indicators provided will shed light on **how residents of a given ER fare in the Canadian labour market** rather than **how the economy of their region fares compared to other local labour markets.**

4. An alternative postal code, associated with the most up-to-date address that the Canada Revenue Agency has for the tax filer at the time the T1 tax record is assessed (generally within two weeks of the filing date) is available for some years. Using data from 2011, various statistics (average annual wages and salaries, median annual wages and salaries, permanent layoff rates, rates of intraprovincial migration) were computed at the economic region level using: (a) the postal code measured around December of year $t+1$, (b) this alternative postal code. For all statistics, the Pearson correlation coefficients between the estimates based on the first postal code and those based on the alternative postal code were equal to 0.995 or more. This suggests that results based on the postal code measured around December of year $t+1$ closely approximate those one would obtain using the alternative postal code.

4 Comparing the Canadian Employer–Employee Dynamics Database with the 2006 Census

Because hiring rates and layoff rates will be computed at the ER of residence level, a key question is whether the CEEDD results are representative of the population of each ER. To gain some insight into this issue, CEEDD results are compared to those from the 2006 Census of Population.[5] Specifically, a sample of employees (individuals who were aged 18 to 64 in 2005 and had positive wages and salaries but no self-employment income in that year) is selected from the two data sources. Since the T1PMF used in the CEEDD do not include late tax filers and since late tax filers represent about 5% of all tax filers (Messacar 2014), one would expect estimates from the CEEDD to be about 5% lower than those from the 2006 Census.

Employment estimates

This is indeed the case. The resulting CEEDD sample contains 13,353,124 individuals, which represents 95% of the corresponding (weighted) estimate obtained from the 2006 Census (14,029,879). Table 2 compares, for each ER, the number of employees aged 18 to 64 in 2005, as measured with the CEEDD, with the corresponding estimate from the 2006 Census. In 40 of the 69 ERs of residence, the CEEDD estimates are within plus or minus 4% of the Census estimates. The CEEDD estimates are within 6% of the 2006 Census estimates in 53 of the 69 ERs, and within 8% of the Census estimates in 62 of the 69 ERs of residence. The CEEDD estimates are less than 90% of the Census estimates in three ERs of residence (Chart 1), with all but one of these in the northern part of their respective provinces.

Sex and age groups

Table 3 compares the proportion of the samples from the two data sets composed of female employees. In 63 of the 69 ERs, the female share of the two samples is within 1 percentage point. Of the remaining six regions, four are located either in Nunavut or in the northern part of their respective provinces (i.e., Nord-du-Québec, Northern Manitoba and Northern Saskatchewan). Overall, the representation of women is very similar in the two data sets (Chart 2).

Table 4 compares the age distributions obtained with the two data sets for men. With the exception of Yorkton–Melville and Prince Albert (both located in Saskatchewan), the mean absolute deviation between the estimates of the percentage of men in a given age group (18 to 24; 25 to 34; 35 to 44; 45 to 54; 55 to 64) obtained with the CEEDD and with the 2006 Census generally amounts to 2.0 percentage points or less, from baseline proportions that vary between 14 and 25 percentage points at the national level.[6] As Table 5 and Charts 3 and 4 show, fairly similar patterns are observed for women.

Taken together, Tables 3 to 5 indicate that the distributions of employees by age and sex, defined at the ER level, are generally very similar in the two data sets.

Annual wages and salaries

Table 6 compares mean annual wages and salaries, median annual wages and salaries, and the percentage of individuals earning at least $100,000 in wages and salaries across the two data

5. Because the National Household Survey (NHS) of 2011 was voluntary, comparing the CEEDD to the NHS might be problematic. Due to sample size limitations or differences in concepts, the Labour Force Survey and the Survey of Labour and Income Dynamics (SLID) are not as well suited as the 2006 Census for providing comparisons of age–sex distributions or annual earnings estimates at the ER level.
6. The mean absolute deviation averages (across the five age groups considered) the absolute differences, between the two data sets, in the percentage of individuals observed in a given age group.

sets.[7] At the national level, mean wages and salaries and median wages and salaries in the CEEDD are 1.8% and 4.1%, respectively, lower than those in the 2006 Census data.

Average wages and salaries are within plus or minus 4% in about two thirds (48 out of 69) of ERs of residence, and within plus or minus 5% in 56 of the 69 regions.

The median wages and salaries estimated using the CEEDD and 2006 Census are within plus or minus 4% in 24 of the 69 ERs of residence and within plus or minus 5% in 37 of the 69 regions.

At the national level, the percentage of individuals earning at least $100,000 is about the same in the 2006 Census and CEEDD, at 4.0% and 3.9%, respectively. Within ERs of residence, the shares of individuals earning at least $100,000 are within 0.2 percentage points in 54 of the 69 ERs, with this representing a difference of 10% or less in 50 of them.

The differences in median wages and mean wages discussed above are shown graphically in Charts 5 and 6. One discrepancy warrants note. Although the CEEDD and 2006 Census estimates of average wages and salaries differ by about 10% for Nunavut, the CEEDD estimate of median earnings for this territory are about 27% lower than those from the 2006 Census.

For the production of labour market indicators at the ER level, a key question is whether cross-regional differences in earnings that are observed in 2006 Census data can also be found in the CEEDD. This is indeed the case. The Pearson correlation coefficient using the two data sources is 0.992 for mean wages and salaries, 0.978 for median wages and salaries, and 0.996 for the percentage of individuals earning at least $100,000 (Table 7). Hence, ERs that display relatively large (median or average) annual wages and salaries in 2006 Census data also exhibit relatively large wages and salaries in CEEDD data (Charts 7 to 9).

Overall, Tables 2 to 7 indicate that the CEEDD yields age–sex distributions and earnings estimates at the ER level that are quite consistent with those obtained from 2006 Census data. This in turn suggests that CEEDD data are well suited for the computation of additional labour market indicators at the ER level.

5 Indicators

Although Statistics Canada currently produces several labour market indicators at the ER level (Appendix 1) or at the CMA/CA (census agglomeration) level,[8] no subprovincial statistics are produced on two important aspects of the Canadian labour market:

(a) Hiring rates
(b) Layoff rates

Hiring rates capture movements of workers into firms. They measure the percentage of employees who start a job with a new employer in a given year and still hold a position with this employer in the following year. They may increase as firms expand, replace a growing number of retirees or employees leaving for other reasons, or start offering a growing number of temporary jobs.

7. When using the CEEDD, annual wages and salaries at the person level are computed by summing earnings across all T4 records observed for a given individual. When using 2006 Census data, annual wages and salaries are obtained either from respondents' T1 tax records or from respondents' answers. About 80% of 2006 Census respondents granted access to their tax records. See *Income and Earnings Reference Guide, 2006 Census* from Statistics Canada (http://www.statcan.gc.ca/eng/subjects/standard/sgc/2011/index).
8. See CANSIM Tables 111-0001 to 111-0022, 111-0024 to 111-0026, and 111-0032 to 111-0044.

Layoff rates capture movements of workers out of firms due to a shortage of work or the end of contracts.[9] They measure the percentage of employees who are laid-off in a given year and do not return to their original employer during that year or the following year. They may increase as employment in declining industries fall, as firms of a given industry downsize for a variety of reasons, or as contracts signed for a growing number of temporary jobs come to an end.

Hiring rates

The hiring rates that are produced using CEEDD data are computed initially as follows:

$$Hiring\ rate = \frac{number\ of\ employees\ observed\ in\ a\ firm\ in\ years\ t\ and\ t+1\ but\ not\ in\ year\ t-1}{Labour\ Force\ Survey\ average\ annual\ paid\ employment\ in\ year\ t\ and\ year\ t-1} \quad (1)$$

This hiring rate concept was selected after considering three questions. First, should hiring rates be computed at the person level or at the job level? Second, should hiring rates include all workers who have been hired in a given year, regardless of their employment status in the following year, or should they restrict attention to those newly hired individuals who are still employed in the following year? Third, should the denominator used to compute hiring rates measure the number of individuals who have been employed at some point during the year—as measured with administrative data—or should it measure average annual paid employment in that year (and/or the previous year)?

In principle, estimates of hiring can be computed both at the **job level** and at the **person level**. These units of analysis measure different concepts. Job-level estimates of hiring capture the number of employer–employee pairings that were newly created in year t, while person-level estimates of hiring capture the number of individuals who started **at least one job with a new employer** in year t. Since the same person can be hired several times by various employers in a given year, job-level estimates will be substantially higher than person-level estimates. At the national level, job-level estimates of hiring exceed person-level estimates by a factor of 1.4, on average (Morissette and Qiu 2012).

The hiring rates computed for the 69 ERs of residence using the CEEDD are calculated at the person-level for two reasons. First, doing so allows estimates to be benchmarked, at the provincial and national levels, with the Labour Force Survey (LFS). Second, this approach is consistent with the approach taken by the OECD (2009).

When measuring hiring at the person level, estimates of the number of hires can be computed in three different ways, reflecting different treatments of individuals' employment in year $t+1$:

- **Unconditional hires:** the number of hires in year t is estimated as (i) the number of employees aged 18 to 64 who started a job with (at least) one new employer in year t, regardless of whether these individuals are employed the following year—that is in year $t+1$;
- **Conditional hires:** the number of hires in year t is estimated as (i) the number of employees aged 18 to 64 who started a job with (at least) one new employer in year t and (ii) who were still employed with any employer in year $t+1$.
- **OECD (2009) hires:** in line with OECD (2009), the number of hires in year t is estimated as (i) the number of employees who started a job with (at least) one new employer in year t and (ii) who were still employed with *the same* employer in year $t+1$.

9. They exclude employee separations due to other reasons such as retirement, quits, maternity leave, returning to school, injury, illness or dismissal.

The distinction matters empirically. For example, at the national level about 3.95 million individuals aged 18 to 64 started at least one job with a new employer in 2011. Of these, 3.70 million were still employed as paid workers in 2012. A subset of these—2.40 million—were still employed with their new employer in 2012. These differences arise from the fact that while unconditional hires and conditional hires provide fairly exhaustive measures of the number of individuals who start a new job in a given year, they include many individuals who have a marginal labour market attachment. As a result, they tend to overestimate the hiring rates faced by workers who have a stronger labour market attachment.

In line with OECD (2009), the hiring rates computed for the 69 ERs of residence using the CEEDD use as a numerator the third metric; i.e., the number of employees who started a job with (at least) one new employer in year t and who were still employed with *the same* employer in year $t+1$.[10]

As mentioned above, at least two options are available regarding the choice of the denominator used to compute hiring rates. The first option uses as a denominator the **number of individuals who have been employed at some point during the year**, as measured with administrative data. One advantage of this option is its simplicity: it allows one to compute both the numerator and the denominator using the CEEDD. One disadvantage is that this denominator is sensitive to exogenous changes in the number of individual transitions from non-employment to employment and from employment to non-employment that might occur even if the average annual paid employment (or average annual work hours) remains unchanged.[11]

The second option is to use as a denominator the **average annual paid employment**, as measured from the LFS. While this denominator requires the use of an additional data set (LFS) for the computation of hiring rates, it is not sensitive to changes in transitions from non-employment to employment and from employment to non-employment that occur at constant employment levels. For this reason, this denominator is used for the computation of hiring rates. Specifically, average annual paid employment in year t and in year $t-1$ is used to compute hiring rates.[12,13]

Comparing hiring rates from the Canadian Employer–Employee Dynamics Database and the Labour Force Survey

The OECD (2009) definition of hires shown above—requiring that hired individuals be employed by the same firm for two consecutive years—allows comparisons to be drawn between CEEDD- and LFS-based measures of hiring. Such a comparison can be performed as follows.

First, consider paid workers interviewed in the LFS in January of year $t+1$. Workers who report having been employed with their current employer for 12 months or less have, by definition, been hired between January of year t and January of year $t+1$. As such, these workers approximate

10. Residents of a given ER who are hired in year t are included in the hiring rate estimates of this ER in year t, regardless of where they will reside in year $t+1$.
11. Consider two labour markets. In the first, one worker starts a job in, say, retail trade, and remains in that job for 12 months. In the second, two individuals enter the labour force and exit it after being employed in retail trade for 6 months each. Even though average annual paid employment equals 1 in both cases and even though the number of hires is twice as high in the second labour market than it is in the first labour market, using as a denominator the number of individuals who have been employed at some point during the year will yield a hiring rate of 1 in both cases. In contrast, dividing the number of hires by average annual paid employment will yield a hiring rate of 1 in the first labour market and of 2 in the second, thereby reflecting the difference in hiring rates between the two labour markets.
12. Averaging annual paid employment over year t and year $t-1$ provides two advantages. First, it increases the precision of the LFS employment estimates used as a denominator at the ER level. Second, it approximates the level of employment observed **at the beginning of year t** in a given region. The reason is that if employment grows or falls **uniformly over time during year $t-1$ and year t**, average annual paid employment during these two years will equal the level of employment observed **at the beginning of year t**.
13. As will be shown below, this denominator will also be used to compute layoff rates.

the number of individuals who were hired *at some point* in year t *and* are still employed by the same firm in January of year $t+1$. Now consider the CEEDD. Select workers who: (a) are observed with the same firm in year t and year $t+1$, and (b) were not observed in that firm prior to year t. Conditions (a) and (b) imply that these workers were hired at some point in year t and—under the plausible assumption that the majority of employment spells with a firm are uninterrupted—are still with the same employer in January of year $t+1$.

The arguments above suggest that estimates of the number of paid workers with 12 months of seniority or less, obtained from the LFS in January of year $t+1$, should be fairly similar to estimates of the number of paid workers: (a) who are observed with the same firm in year t and year $t+1$, and (b) were not observed in that firm prior to year t, when these estimates come from the CEEDD or alternative data sets—such as the Longitudinal Worker File (LWF)—that use input files very similar to those used in the CEEDD.[14]

Chart 10 confirms this. It shows the hiring rate obtained from the LWF for the period from 1978 to 2010 and the LFS for the period from 1976 to 2011.[15,16] The LWF-based measure and the LFS yield similar trends and levels over time. Furthermore, the OECD (2009) definition of hiring tracks recessions and expansions quite well over the extended reference period.

Charts 11 to 14 compare the hiring rate derived from the CEEDD and the LFS for individuals aged 18 to 64 in Quebec, Ontario, Alberta, and British Columbia. With the exception of Quebec in 2005/2006, the hiring rates from the two sources display similar temporal movements. As expected, the CEEDD-based hiring rates fell from 2008 to 2009 in each of these provinces, as the Canadian economy entered a recession. The CEEDD-based hiring rate is also higher in Alberta than in the three other provinces, a finding consistent with the relatively strong economic activity in that province.

Table 8 shows the hiring rate obtained from the CEEDD and LFS for each province. Table 9 quantifies the degree to which the two series are correlated. Considering all provinces across the nine years of the 2003-to-2011 period, the Pearson correlation coefficient between the two series equals 0.674. Within provinces, temporal variations in hiring rates across the two data sets are more strongly correlated in Ontario and the Western provinces than they are in the Atlantic Provinces. This likely reflects the relatively high sampling variability of LFS estimates of the number of hires in the Atlantic Provinces.[17] Surprisingly, the correlation across years observed in Quebec is, at 0.383, relatively low. Within most years, cross-provincial differences in hiring rates from the CEEDD are reasonably correlated with those in the LFS (with a correlation coefficient of 0.550 or more being observed in seven years out of nine), thereby indicating that provinces that display relatively high hiring rates in a given year in one data set tend to display relatively high hiring rates in the alternative data set.

In sum, the CEEDD hiring rates generally display: (a) plausible temporal patterns, being lower in 2008/2009 than during previous years; (b) plausible cross-provincial differences, being higher in Alberta than in the three other large provinces; and (c) reasonable correlations with LFS hiring rates.

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14. While the CEEDD uses the NALMF file, the Longitudinal Worker File (LWF) uses the Longitudinal Employment Analysis Program (LEAP).
15. Ideally, one would like to use the CEEDD to perform this exercise. Since the CEEDD covers only the 1997-to-2012 period, this is not possible. Instead, the LWF, which uses the same input files as the CEEDD, has to be used.
16. The numbers in Chart 10 are based on the additional (minor) restriction that employees hired in year t hold, in year $t+1$, no job that started prior to year t.
17. Recall that the **number of hires in year t in the LFS** is obtained by estimating the number of employees who have 12 months of tenure or less as of January of year $t+1$, a statistic with larger sampling variability than provincial employment estimates.

Layoff rates

The layoff rates that are produced using CEEDD data are computed initially as follows:

$$Layoff\ rate = \frac{number\ of\ employees\ laid\ off\ from\ a\ firm\ in\ year\ t\ and\ not\ returning\ to\ firm\ in\ year\ t+1}{Labour\ Force\ Survey\ average\ annual\ paid\ employment\ in\ year\ t\ and\ year\ t-1} \quad (2)$$

During recessions as well as expansionary periods, thousands of Canadians lose their job. Information on job losses is thus critical for understanding local labour markets. Because it uses the complete (100%) version of the ROE file, the CEEDD provides an accurate measurement of layoffs experienced by residents of a given ER.

The CEEDD allows the number of layoffs in Canada to be calculated on an annual basis using the ROE, which specifies the reason for the work interruption or separation. Separations due to "shortage of work" (code "A" on the ROE) are identified as layoffs.[18]

The CEEDD file allows both temporary and permanent layoffs to be identified. A layoff is identified as temporary when the laid-off worker returns to his or her employer during the year of the layoff or in the following year. When such a return does not occur, the layoff is considered permanent.

The layoff rate concept defined above is based on permanent layoffs since job losses experienced by workers are of primary interest.

Before presenting statistics on permanent layoff rates, it is useful to check whether the number of jobs ending with a permanent or temporary layoff divided by the average level of paid employment, obtained from administrative data, displays plausible temporal variation. This is done in Chart 15, where the total layoff rate from the LWF is compared to that derived from the LFS.[19]

As expected, both series rise sharply with the 1981/1982 recession, the 1990–1992 recession and the onset of the 2008/2009 recession. While the LWF layoff rate is somewhat lower than the LFS layoff rate from 1978 to 1996, both series are very similar afterwards. Thus, Chart 15 indicates that the layoff information contained in the ROE file (which is used to construct the LWF) yields a layoff rate that exhibits plausible temporal variation.

Chart 16 uses data from the LWF and shows that layoff rates based on permanent layoffs also display plausible patterns over the last three decades. Together, Charts 15 and 16 suggest that the ROE file can be used to produce sensible estimates of job losses.

Chart 17 compares the permanent layoff rates obtained from the CEEDD with those obtained from the Survey of Labour and Income Dynamics (SLID) when considering all provinces.[20] Over the 2003-to-2011 period, the two series track each other fairly well, even though SLID estimates are somewhat higher than those from the CEEDD.[21] Table 10 provides the province-specific permanent layoff rates resulting from each data set. Table 11 reports the Pearson correlation coefficients obtained with the two series. Considering all years of the 2003-to-2011 period and all

18. This includes ROE-reported job terminations due to—among other things—end of contracts, end of season, temporary or permanent shutdown of operations, position eliminated, company restructuring, and employer bankruptcy.
19. For details on the construction of the two series, see Morissette and Qiu (2012).
20. Like CEEDD estimates, SLID estimates of the number of permanent layoffs are divided by LFS estimates of average annual paid employment in year t and year $t-1$. SLID estimates are based on the number of jobs that end in a given year due to the following reasons: (a) company moved, (b) company went out of business, (c) layoff/business slowdown (not caused by seasonal conditions), (d) temporary job/contract ended.
21. The SLID estimates are obtained using the ILBWT26 sampling weight. One reason why the SLID estimates are higher than those from the CEEDD might be related to the fact that some workers who think that their job ended might end up being recalled the following year. If so, they would not be counted in the permanent layoff definition used for the CEEDD.

provinces, the two series are highly correlated: they have a correlation coefficient of 0.915. For all years considered, cross-provincial differences in permanent layoff rates are also highly correlated, as the correlation coefficient varies between 0.714 and 0.978. Temporal movements in permanent layoff rates within provinces display smaller correlations. As Charts 18 to 21 show, this is particularly true for Quebec.

6 Refining the indicators

Before producing final estimates, the hiring rates and layoff rates defined in Equations (1) and (2) are subject to a few additional adjustments.

First, employees returning to their employer after parental leave are removed from the estimates of new hires. Second, as is the case in the LFS, full-time members of the Armed Forces and individuals on reserves are excluded. Third, a special algorithm is used to determine hires and layoffs among employees working in Education, Health Care and Social Assistance, and Public Administration. Doing so is necessary to minimize the impact on estimates of hires and layoffs of false changes in the longitudinal employer identifiers that might occur in these sectors. As Table 12 shows, in years during which layoff rates in Public Administration increase substantially, a large proportion of the individuals who (based on Equation [2]) appear to be permanently laid-off from this sector end up being reemployed in the same 3-digit industry in year $t+1$. This pattern suggests that many of these individuals actually remained with the same employer but that the longitudinal firm identifiers erroneously changed from one year to the next.

For this reason, new hires are deemed to occur in these sectors when workers:

(a) are hired by at least one new employer in these sectors in year t;
(b) did not hold any job that belonged to the same 3-digit industry in year $t-1$;
(c) still hold at least one job in the same 3-digit industry in year $t+1$.

Likewise, layoffs are deemed to occur in these sectors when workers:

(a) were laid off from at least one employer in these sectors in year t;
(b) did not work, in year $t+1$, in any job that belonged to the 3-digit industry associated with their layoff.

7 Conclusion

In response to strong demand for local labour market information, the Social Analysis and Modelling Division has recently constructed an administrative data set that is a subset of the Canadian Employer–Employee Dynamics Database data, covers virtually all tax filers and allows the computation of several labour market indicators at the level of individuals' economic region of residence.

Taken together, the evidence presented in this article indicates that these data are well-suited for the computation of hiring rates and layoff rates. In general, these indicators display plausible temporal movements, plausible cross-provincial variation, and reasonable correlations with conceptually comparable indicators from alternative data sources.

8 Tables and charts

Table 1-1
Percentage of employees working in their economic region of residence, 2006 — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario

	Economic region	Individuals aged 18 to 64	Individuals aged 25 to 64	Individuals aged 25 to 54
	number		percent	
Canada	...	91.0	90.8	90.7
Newfoundland and Labrador				
Avalon Peninsula	1	97.6	97.9	97.9
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2	90.0	91.1	91.4
West Coast–Northern Peninsula–Labrador	3	96.3	97.0	97.2
Prince Edward Island				
Prince Edward Island	4	98.6	99.0	99.0
Nova Scotia				
Cape Breton	5	95.6	96.3	96.2
North Shore	6	92.5	92.9	93.1
Annapolis Valley	7	78.4	78.2	77.7
Southern	8	92.9	93.4	93.2
Halifax	9	97.8	98.2	98.1
New Brunswick				
Campbellton–Miramichi	10	95.7	96.4	96.6
Moncton–Richibucto	11	96.6	96.9	96.9
Saint John–St. Stephen	12	97.3	97.7	97.7
Fredericton–Oromocto	13	95.8	95.8	96.1
Edmundston–Woodstock	14	96.3	96.9	96.8
Quebec				
Gaspésie–Îles-de-la-Madeleine	15	93.7	94.7	94.9
Bas-Saint-Laurent	16	95.9	96.4	96.4
Capitale-Nationale	17	94.6	94.7	94.5
Chaudière-Appalaches	18	78.7	78.1	77.7
Estrie	19	93.2	93.5	93.7
Centre-du-Québec	20	89.2	89.7	89.5
Montérégie	21	67.5	65.6	64.8
Montréal	22	92.0	91.8	91.7
Laval	23	39.8	36.3	35.2
Lanaudière	24	54.4	51.9	50.9
Laurentides	25	60.3	58.2	57.1
Outaouais	26	60.8	58.6	57.8
Abitibi-Témiscamingue	27	95.9	96.2	96.2
Mauricie	28	90.1	90.1	90.0
Saguenay–Lac-Saint-Jean	29	97.6	98.0	98.0
Côte-Nord and Nord-du-Québec	30	97.6	98.1	98.1
Ontario				
Ottawa	31	94.3	94.3	94.4
Kingston–Pembroke	32	92.9	93.4	93.5
Muskoka–Kawarthas	33	80.7	80.0	79.8
Toronto	34	98.1	98.3	98.3
Kitchener–Waterloo–Barrie	35	83.5	82.7	82.4
Hamilton–Niagara Peninsula	36	84.7	84.0	83.4
London	37	93.7	93.9	93.7
Windsor–Sarnia	38	97.3	97.7	97.7
Stratford–Bruce Peninsula	39	86.9	87.8	87.2
Northeast	40	97.1	97.6	97.9
Northwest	41	98.6	98.9	98.9

... not applicable

Note: Individuals who are employees and are not involved in self-employment during census reference week.

Source: Statistics Canada, 2006 Census of Population.

Table 1-2
Percentage of employees working in their economic region of residence, 2006 — Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories, and Nunavut

	Economic region	Individuals aged 18 to 64	Individuals aged 25 to 64	Individuals aged 25 to 54
	number		percent	
Manitoba				
Southeast	42	61.3	60.2	59.9
South Central and North Central	43	85.4	85.4	84.9
Southwest	44	96.6	97.1	97.2
Winnipeg	45	96.7	96.9	96.8
Interlake	46	49.2	48.7	47.3
Parklands and North	47	95.9	96.2	96.3
Saskatchewan				
Regina–Moose Mountain	48	97.9	98.3	98.3
Swift Current–Moose Jaw	49	93.2	93.9	93.8
Saskatoon–Biggar	50	95.4	95.9	95.8
Yorkton–Melville	51	92.6	94.1	93.7
Prince Albert and Northern	52	85.5	87.1	86.3
Alberta				
Lethbridge–Medicine Hat	53	97.2	97.6	97.6
Camrose–Drumheller	54	84.1	84.1	83.8
Calgary	55	98.5	98.7	98.8
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56	93.5	93.6	93.8
Red Deer	57	94.9	95.0	95.2
Edmonton	58	97.6	97.8	97.8
Wood Buffalo–Cold Lake	59	97.2	97.6	97.6
British Columbia				
Vancouver Island and Coast	60	98.1	98.4	98.6
Lower Mainland–Southwest	61	99.4	99.5	99.5
Thompson–Okanagan	62	97.5	97.7	97.9
Kootenay	63	96.6	97.3	97.4
Cariboo	64	97.5	97.9	98.0
North Coast and Nechako	65	96.3	97.1	97.0
Northeast	66	97.5	97.7	98.1
Yukon (Territory)				
Yukon Territory	67	98.5	99.1	99.0
Northwest Territories				
Northwest Territories	68	99.3	99.5	99.5
Nunavut				
Nunavut	69	99.3	99.3	99.2

Note: Individuals who are employees and are not involved in self-employment during census reference week.
Source: Statistics Canada, 2006 Census of Population.

Table 2-1
Number of employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario

	Economic region	CEEDD data	2006 Census data	CEEDD data divided by 2006 Census data
		number		ratio
Canada	...	13,353,124	14,029,879	0.95
Newfoundland and Labrador				
Avalon Peninsula	1	112,050	115,756	0.97
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2	62,876	61,319	1.03
West Coast–Northern Peninsula–Labrador	3	48,233	47,682	1.01
Prince Edward Island				
Prince Edward Island	4	61,014	61,386	0.99
Nova Scotia				
Cape Breton	5	59,005	58,676	1.01
North Shore	6	67,177	66,804	1.01
Annapolis Valley	7	52,027	51,474	1.01
Southern	8	48,660	47,864	1.02
Halifax	9	172,440	185,059	0.93
New Brunswick				
Campbellton–Miramichi	10	74,901	70,524	1.06
Moncton–Richibucto	11	91,249	92,447	0.99
Saint John–St. Stephen	12	75,564	75,439	1.00
Fredericton–Oromocto	13	58,457	61,757	0.95
Edmundston–Woodstock	14	36,196	36,008	1.01
Quebec				
Gaspésie–Îles-de-la-Madeleine	15	41,245	39,754	1.04
Bas-Saint-Laurent	16	87,230	84,445	1.03
Capitale-Nationale	17	309,562	313,507	0.99
Chaudière-Appalaches	18	182,109	176,864	1.03
Estrie	19	122,646	126,238	0.97
Centre-du-Québec	20	98,848	95,724	1.03
Montérégie	21	632,841	628,817	1.01
Montréal	22	753,334	806,019	0.93
Laval	23	169,647	170,616	0.99
Lanaudière	24	199,446	195,228	1.02
Laurentides	25	232,774	230,325	1.01
Outaouais	26	152,454	157,609	0.97
Abitibi-Témiscamingue	27	64,652	63,567	1.02
Mauricie	28	110,889	108,366	1.02
Saguenay–Lac-Saint-Jean	29	126,001	121,298	1.04
Côte-Nord and Nord-du-Québec	30	58,441	64,429	0.91
Ontario				
Ottawa	31	496,480	526,041	0.94
Kingston–Pembroke	32	176,512	182,437	0.97
Muskoka–Kawarthas	33	134,610	142,098	0.95
Toronto	34	2,229,978	2,402,926	0.93
Kitchener–Waterloo–Barrie	35	489,479	528,544	0.93
Hamilton–Niagara Peninsula	36	553,831	583,672	0.95
London	37	257,361	272,438	0.94
Windsor–Sarnia	38	260,576	273,818	0.95
Stratford–Bruce Peninsula	39	107,068	113,392	0.94
Northeast	40	227,260	232,621	0.98
Northwest	41	94,891	104,505	0.91

... not applicable

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 2-2
Number of employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories, and Nunavut

	Economic region	CEEDD data	2006 Census data	CEEDD data divided by 2006 Census data
		number		ratio
Manitoba				
Southeast	42	31,684	35,531	0.89
South Central and North Central	43	31,281	33,336	0.94
Southwest	44	38,953	40,245	0.97
Winnipeg	45	290,354	302,605	0.96
Interlake	46	33,220	34,293	0.97
Parklands and North	47	35,682	43,099	0.83
Saskatchewan				
Regina–Moose Mountain	48	112,486	118,370	0.95
Swift Current–Moose Jaw	49	32,812	32,736	1.00
Saskatoon–Biggar	50	118,614	125,255	0.95
Yorkton–Melville	51	25,141	25,565	0.98
Prince Albert and Northern	52	72,467	75,444	0.96
Alberta				
Lethbridge–Medicine Hat	53	101,039	105,635	0.96
Camrose–Drumheller	54	66,723	69,044	0.97
Calgary	55	537,494	578,225	0.93
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56	134,630	138,365	0.97
Red Deer	57	76,323	79,977	0.95
Edmonton	58	502,561	537,557	0.93
Wood Buffalo–Cold Lake	59	54,801	56,274	0.97
British Columbia				
Vancouver Island and Coast	60	271,653	299,816	0.91
Lower Mainland–Southwest	61	977,858	1,077,540	0.91
Thompson–Okanagan	62	181,448	196,791	0.92
Kootenay	63	58,052	58,435	0.99
Cariboo	64	67,898	69,947	0.97
North Coast and Nechako	65	35,676	40,709	0.88
Northeast	66	26,989	29,322	0.92
Yukon (Territory)				
Yukon Territory	67	14,474	15,540	0.93
Northwest Territories				
Northwest Territories	68	20,702	21,342	0.97
Nunavut				
Nunavut	69	12,095	11,386	1.06

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 3-1
Percentage of women among employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario

	Economic region	CEEDD data	2006 Census data	CEEDD data minus 2006 Census data
	number		percent	
Canada	...	...	...	...
Newfoundland and Labrador				
Avalon Peninsula	1	50.4	50.6	-0.2
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2	47.9	48.1	-0.1
West Coast–Northern Peninsula–Labrador	3	49.2	49.9	-0.6
Prince Edward Island				
Prince Edward Island	4	52.3	52.4	-0.1
Nova Scotia				
Cape Breton	5	50.4	51.5	-1.1
North Shore	6	49.7	49.9	-0.2
Annapolis Valley	7	48.4	49.0	-0.7
Southern	8	49.8	49.6	0.1
Halifax	9	50.8	50.8	0.0
New Brunswick				
Campbellton–Miramichi	10	47.3	47.9	-0.5
Moncton–Richibucto	11	49.8	50.3	-0.4
Saint John–St. Stephen	12	49.8	49.9	-0.1
Fredericton–Oromocto	13	48.8	48.9	-0.2
Edmundston–Woodstock	14	48.6	49.1	-0.4
Quebec				
Gaspésie–Îles-de-la-Madeleine	15	48.5	48.7	-0.2
Bas-Saint-Laurent	16	47.3	47.5	-0.2
Capitale-Nationale	17	49.1	49.1	0.0
Chaudière-Appalaches	18	47.4	47.2	0.2
Estrie	19	48.4	47.9	0.5
Centre-du-Québec	20	46.7	46.5	0.2
Montérégie	21	48.7	48.6	0.1
Montréal	22	49.8	49.7	0.1
Laval	23	50.2	49.8	0.4
Lanaudière	24	47.8	47.7	0.1
Laurentides	25	48.8	48.9	-0.1
Outaouais	26	50.4	49.9	0.6
Abitibi-Témiscamingue	27	45.1	45.7	-0.6
Mauricie	28	46.1	46.2	-0.1
Saguenay–Lac-Saint-Jean	29	44.1	43.9	0.2
Côte-Nord and Nord-du-Québec	30	44.4	45.8	-1.3
Ontario				
Ottawa	31	50.3	50.0	0.3
Kingston–Pembroke	32	50.0	49.8	0.1
Muskoka–Kawarthas	33	51.0	50.9	0.2
Toronto	34	50.8	50.5	0.3
Kitchener–Waterloo–Barrie	35	49.2	48.9	0.3
Hamilton–Niagara Peninsula	36	49.8	49.6	0.2
London	37	50.2	49.9	0.3
Windsor–Sarnia	38	48.5	48.6	-0.2
Stratford–Bruce Peninsula	39	50.5	49.9	0.5
Northeast	40	49.4	49.3	0.1
Northwest	41	48.3	49.2	-0.9

... not applicable

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 3-2
Percentage of women among employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories, and Nunavut

	Economic region	CEEDD data	2006 Census data	CEEDD data minus 2006 Census data
	number		percent	
Manitoba				
Southeast	42	48.9	49.1	-0.2
South Central and North Central	43	48.6	50.3	-1.7
Southwest	44	51.8	52.6	-0.7
Winnipeg	45	50.4	50.5	-0.1
Interlake	46	50.5	50.9	-0.3
Parklands and North	47	47.9	49.8	-2.0
Saskatchewan				
Regina–Moose Mountain	48	51.4	51.5	-0.2
Swift Current–Moose Jaw	49	53.2	53.4	-0.2
Saskatoon–Biggar	50	50.7	50.8	-0.2
Yorkton–Melville	51	55.1	54.6	0.5
Prince Albert and Northern	52	50.7	51.8	-1.1
Alberta				
Lethbridge–Medicine Hat	53	47.8	48.5	-0.7
Camrose–Drumheller	54	50.1	49.9	0.2
Calgary	55	48.8	48.4	0.4
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56	46.9	47.0	-0.1
Red Deer	57	48.2	48.4	-0.2
Edmonton	58	48.4	48.5	-0.1
Wood Buffalo–Cold Lake	59	44.4	44.6	-0.2
British Columbia				
Vancouver Island and Coast	60	50.9	50.4	0.5
Lower Mainland–Southwest	61	50.7	50.1	0.6
Thompson–Okanagan	62	50.1	49.9	0.2
Kootenay	63	48.5	48.3	0.2
Cariboo	64	47.5	47.9	-0.4
North Coast and Nechako	65	46.7	47.1	-0.4
Northeast	66	45.5	45.7	-0.2
Yukon (Territory)				
Yukon Territory	67	51.1	50.9	0.2
Northwest Territories				
Northwest Territories	68	47.7	47.2	0.5
Nunavut				
Nunavut	69	48.5	47.2	1.3

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 4-1
Age distribution of male employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, and Quebec

		Percentage of individuals aged										
		18 to 24		25 to 34		35 to 44		45 to 54		55 to 64		
	Economic region	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	Mean absolute deviation
	number					percent						value
Canada	...	16.6	16.6	21.9	22.1	25.2	24.5	23.7	23.6	12.6	13.1	0.3
Newfoundland and Labrador												
Avalon Peninsula	1	16.6	16.9	22.0	21.9	25.0	24.7	24.1	23.7	12.4	12.7	0.3
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2	11.9	14.5	17.1	18.0	26.3	24.7	27.9	26.5	16.8	16.3	1.4
West Coast–Northern Peninsula–Labrador	3	14.2	15.2	17.3	18.3	25.7	25.0	27.9	26.3	14.9	15.2	0.9
Prince Edward Island												
Prince Edward Island	4	18.9	18.8	19.9	21.2	22.7	23.0	24.1	22.8	14.4	14.2	0.6
Nova Scotia												
Cape Breton	5	15.6	17.1	16.1	18.0	24.1	22.4	27.7	26.5	16.4	16.0	1.3
North Shore	6	15.0	16.7	18.8	19.9	24.9	23.3	25.9	24.9	15.4	15.2	1.1
Annapolis Valley	7	13.8	15.7	20.7	20.1	27.4	26.4	25.1	24.4	13.1	13.5	0.9
Southern	8	13.7	16.1	18.7	19.4	26.5	24.9	26.3	24.7	14.8	14.8	1.3
Halifax	9	17.5	16.2	22.8	22.9	25.5	25.4	22.7	23.4	11.5	12.2	0.6
New Brunswick												
Campbellton–Miramichi	10	13.3	15.0	18.5	18.9	25.6	24.7	27.3	26.6	15.3	14.8	0.8
Moncton–Richibucto	11	16.5	16.1	21.5	22.6	24.6	23.9	24.1	23.5	13.3	13.9	0.7
Saint John–St. Stephen	12	14.9	16.3	21.0	21.0	26.0	24.6	25.1	24.5	13.0	13.5	0.8
Fredericton–Oromocto	13	17.3	17.2	23.1	23.5	24.9	24.6	22.7	22.1	12.0	12.7	0.4
Edmundston–Woodstock	14	15.6	17.2	20.5	21.2	24.1	23.2	26.3	25.5	13.6	12.9	0.9
Quebec												
Gaspésie–Îles-de-la-Madeleine	15	13.2	14.6	16.5	17.6	24.5	23.0	29.9	29.0	15.9	15.8	1.0
Bas-Saint-Laurent	16	16.2	16.7	19.4	20.2	22.4	21.4	28.5	27.3	13.5	14.5	0.9
Capitale-Nationale	17	16.5	15.2	22.1	22.4	23.7	23.1	25.3	25.5	12.4	13.7	0.7
Chaudière-Appalaches	18	16.1	17.0	21.8	22.2	23.7	22.9	25.3	24.4	13.1	13.5	0.7
Estrie	19	17.7	17.2	20.8	21.8	23.5	22.3	24.9	24.4	13.1	14.2	0.9
Centre-du-Québec	20	16.1	16.6	21.4	22.1	23.5	22.4	25.5	24.7	13.5	14.2	0.7
Montérégie	21	14.8	15.1	20.4	20.7	25.6	24.7	25.6	25.2	13.6	14.2	0.5
Montréal	22	16.7	14.6	25.8	26.0	25.1	25.3	21.1	21.9	11.3	12.2	0.8
Laval	23	15.7	15.2	20.0	20.5	26.7	26.1	24.8	24.8	12.8	13.3	0.4
Lanaudière	24	14.3	14.8	19.7	20.1	26.2	25.3	26.8	26.2	13.0	13.6	0.6
Laurentides	25	13.9	14.5	20.2	20.6	26.7	26.2	26.2	25.3	12.9	13.4	0.6
Outaouais	26	15.4	15.2	21.6	21.7	26.6	25.8	25.0	25.4	11.3	11.9	0.4
Abitibi-Témiscamingue	27	15.5	16.0	19.0	19.8	25.7	24.1	27.3	26.9	12.4	13.1	0.8
Mauricie	28	16.1	15.5	18.3	19.0	23.2	22.3	28.2	28.3	14.2	15.0	0.6
Saguenay–Lac-Saint-Jean	29	15.7	16.5	18.8	19.8	22.9	21.9	29.2	28.4	13.4	13.3	0.7
Côte-Nord and Nord-du-Québec	30	14.2	14.6	20.8	20.3	25.3	24.1	26.3	27.1	13.3	13.9	0.7

... not applicable

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 4-2

Age distribution of male employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Ontario, Manitoba, Saskatchewan, and Alberta

		Percentage of individuals aged										
		18 to 24		25 to 34		35 to 44		45 to 54		55 to 64		
	Economic region	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	Mean absolute deviation
	number					percent						value
Ontario												
Ottawa	31	16.3	16.0	21.6	21.5	26.4	25.8	23.8	24.0	12.1	12.8	0.4
Kingston–Pembroke	32	16.8	17.7	20.4	21.2	25.5	24.7	24.1	22.9	13.2	13.4	0.8
Muskoka–Kawarthas	33	16.3	18.7	18.2	18.7	23.5	22.3	26.0	25.0	15.9	15.4	1.1
Toronto	34	15.7	15.4	23.2	22.9	27.2	26.9	21.9	22.3	11.9	12.5	0.4
Kitchener–Waterloo–Barrie	35	17.0	17.1	22.4	22.2	26.2	25.8	22.4	22.3	12.0	12.6	0.2
Hamilton–Niagara Peninsula	36	16.6	17.1	20.6	20.6	25.3	24.2	23.8	23.8	13.7	14.3	0.5
London	37	18.1	18.3	22.4	22.4	25.2	24.1	22.2	22.4	12.2	12.9	0.4
Windsor–Sarnia	38	16.9	17.8	21.6	21.6	25.4	24.3	23.8	23.7	12.2	12.6	0.5
Stratford–Bruce Peninsula	39	18.4	20.1	18.2	19.6	22.6	21.2	25.2	24.1	15.6	15.0	1.3
Northeast	40	16.3	17.4	19.3	20.2	24.6	23.8	26.5	25.6	13.2	13.0	0.8
Northwest	41	15.9	16.4	19.1	19.5	25.5	23.5	26.7	27.0	12.7	13.6	0.8
Manitoba												
Southeast	42	18.7	20.6	19.3	21.1	25.1	23.3	24.0	22.6	12.9	12.4	1.5
South Central and North Central	43	20.2	23.3	20.9	22.2	24.3	22.1	22.5	20.7	12.1	11.7	1.8
Southwest	44	21.3	22.1	21.9	23.2	21.4	21.1	23.4	21.2	12.0	12.4	1.0
Winnipeg	45	17.5	17.1	22.8	22.9	24.3	23.7	23.3	23.6	12.1	12.7	0.4
Interlake	46	15.6	18.4	16.3	17.1	26.2	23.7	27.1	25.9	14.8	14.9	1.5
Parklands and North	47	16.8	19.2	22.3	23.7	25.6	23.6	23.2	22.0	12.1	11.5	1.5
Saskatchewan												
Regina–Moose Mountain	48	20.3	20.1	21.9	23.0	22.8	22.4	24.1	23.2	10.9	11.3	0.6
Swift Current–Moose Jaw	49	20.1	23.9	20.7	20.9	22.6	20.4	24.4	22.5	12.1	12.3	1.7
Saskatoon–Biggar	50	21.8	20.7	22.7	23.3	22.5	22.4	22.5	22.6	10.5	11.1	0.5
Yorkton–Melville	51	17.2	24.0	19.6	20.5	22.4	20.5	26.3	22.4	14.5	12.6	3.1
Prince Albert and Northern	52	19.1	22.6	21.0	22.7	24.4	22.2	22.9	21.0	12.7	11.5	2.1
Alberta												
Lethbridge–Medicine Hat	53	20.2	21.5	23.3	24.4	21.6	21.1	22.8	21.3	12.1	11.7	1.0
Camrose–Drumheller	54	18.4	21.5	21.7	22.7	25.0	22.5	22.6	21.3	12.3	12.0	1.7
Calgary	55	17.6	16.8	24.9	24.6	24.8	24.5	22.1	22.9	10.5	11.2	0.6
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56	19.8	21.1	25.2	25.7	23.9	22.8	20.7	20.3	10.4	10.2	0.7
Red Deer	57	21.3	21.8	24.9	25.2	22.4	22.0	21.5	21.1	9.8	10.0	0.4
Edmonton	58	19.1	18.2	23.6	23.8	23.7	23.2	22.0	22.6	11.6	12.2	0.6
Wood Buffalo–Cold Lake	59	18.4	18.9	24.8	25.3	25.0	23.8	23.0	22.7	8.8	9.3	0.6

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 4-3
Age distribution of male employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — British Columbia, Yukon, Northwest Territories, and Nunavut

		Percentage of individuals aged										
		18 to 24		25 to 34		35 to 44		45 to 54		55 to 64		
	Economic region	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	Mean absolute deviation
	number					percent						value
British Columbia												
Vancouver Island and Coast	60	15.8	16.7	18.9	19.4	23.0	22.3	25.9	25.4	16.3	16.2	0.5
Lower Mainland–Southwest	61	16.5	16.4	22.3	22.2	25.5	24.8	22.8	22.9	12.9	13.7	0.4
Thompson–Okanagan	62	16.9	18.7	18.4	18.8	23.1	21.7	25.2	25.0	16.4	15.8	0.9
Kootenay	63	13.3	16.3	17.2	18.1	22.1	20.9	29.2	27.5	18.2	17.2	1.6
Cariboo	64	15.8	17.3	19.3	19.7	24.7	23.0	25.8	25.1	14.4	14.9	1.0
North Coast and Nechako	65	14.2	16.7	18.9	19.4	25.3	23.7	26.8	25.9	14.8	14.2	1.2
Northeast	66	20.6	21.0	23.7	24.3	23.6	23.3	21.3	21.1	10.9	10.3	0.4
Yukon (Territory)												
Yukon Territory	67	15.7	16.0	19.7	19.9	23.9	23.7	27.0	25.8	13.7	14.6	0.5
Northwest Territories												
Northwest Territories	68	16.7	16.4	24.9	25.3	25.5	25.8	22.6	21.6	10.2	10.8	0.5
Nunavut												
Nunavut	69	18.1	18.4	29.0	29.5	25.8	25.3	17.8	16.9	9.2	9.9	0.6

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 5-1
Age distribution of female employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, and Quebec

		Percentage of individuals aged										
		18 to 24		25 to 34		35 to 44		45 to 54		55 to 64		
	Economic region	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	Mean absolute deviation
	number					percent						value
Canada	...	16.6	16.7	22.1	22.3	25.7	24.8	24.5	24.3	11.2	11.9	0.4
Newfoundland and Labrador												
Avalon Peninsula	1	17.6	17.0	21.7	22.4	26.9	25.7	24.4	24.2	9.5	10.7	0.8
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2	12.5	15.4	18.7	18.8	28.7	26.4	28.7	26.9	11.4	12.6	1.7
West Coast–Northern Peninsula–Labrador	3	14.6	15.4	20.1	19.9	27.7	26.8	25.7	26.1	11.9	11.9	0.4
Prince Edward Island												
Prince Edward Island	4	16.5	17.8	20.6	20.8	25.1	23.9	24.8	24.2	13.0	13.3	0.7
Nova Scotia												
Cape Breton	5	14.7	16.8	17.9	19.0	26.4	24.3	27.8	27.0	13.2	12.9	1.3
North Shore	6	15.1	17.2	20.0	20.3	25.9	24.5	27.0	25.4	11.9	12.6	1.2
Annapolis Valley	7	14.8	16.2	20.4	20.8	28.1	26.2	26.0	25.4	10.6	11.4	1.0
Southern	8	13.6	16.2	20.2	19.6	27.1	25.8	27.1	26.0	12.1	12.4	1.2
Halifax	9	17.8	16.2	23.4	23.9	25.2	25.5	23.4	23.5	10.2	10.9	0.7
New Brunswick												
Campbellton–Miramichi	10	12.9	15.2	20.0	19.9	27.5	26.2	28.5	27.2	11.0	11.6	1.1
Moncton–Richibucto	11	15.9	16.1	22.7	23.0	24.8	24.4	25.0	24.5	11.6	12.0	0.4
Saint John–St. Stephen	12	15.1	16.3	21.0	22.0	26.9	25.4	26.1	24.7	10.9	11.5	1.1
Fredericton–Oromocto	13	18.1	16.8	23.1	23.0	24.5	24.8	24.0	23.9	10.3	11.5	0.6
Edmundston–Woodstock	14	14.9	17.2	19.9	20.3	26.8	24.8	26.8	26.2	11.6	11.6	1.0
Quebec												
Gaspésie–Îles-de-la-Madeleine	15	11.7	14.1	17.3	17.8	27.4	24.8	31.2	30.1	12.5	13.2	1.5
Bas-Saint-Laurent	16	15.2	17.2	19.3	19.9	24.5	22.5	30.1	28.9	10.9	11.5	1.3
Capitale-Nationale	17	17.2	15.7	21.2	21.9	23.5	23.1	27.0	27.1	11.1	12.2	0.7
Chaudière-Appalaches	18	16.8	17.5	21.4	22.2	24.6	23.3	26.8	26.0	10.5	11.0	0.8
Estrie	19	18.3	17.8	20.6	20.9	23.3	23.0	26.3	26.1	11.4	12.2	0.4
Centre-du-Québec	20	16.1	17.6	21.3	21.8	25.4	23.3	26.7	25.9	10.6	11.3	1.1
Montérégie	21	14.9	15.3	20.7	21.2	26.8	25.4	26.1	25.9	11.6	12.2	0.6
Montréal	22	18.2	15.8	25.1	25.4	22.8	23.1	22.6	23.3	11.3	12.5	1.0
Laval	23	15.0	15.0	21.4	21.1	27.4	26.6	25.2	25.6	11.0	11.8	0.5
Lanaudière	24	14.3	14.9	20.8	21.3	28.2	26.5	26.7	26.4	10.0	11.0	0.8
Laurentides	25	13.8	14.7	20.9	21.1	28.0	27.1	26.3	25.7	11.1	11.5	0.6
Outaouais	26	14.3	14.9	21.8	22.0	28.1	27.1	26.4	26.0	9.4	10.0	0.6
Abitibi-Témiscamingue	27	15.4	17.3	21.2	20.7	27.8	25.5	26.5	26.7	9.1	9.8	1.1
Mauricie	28	16.4	16.7	18.2	19.2	25.6	23.8	29.4	29.0	10.4	11.3	0.9
Saguenay–Lac-Saint-Jean	29	17.4	18.3	19.4	20.0	25.6	23.3	28.5	28.2	9.1	10.2	1.0
Côte-Nord and Nord-du-Québec	30	15.8	16.5	23.0	21.7	28.9	26.3	24.0	25.7	8.3	9.8	1.6

... not applicable

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 5-2
Age distribution of female employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — Ontario, Manitoba, Saskatchewan, and Alberta

		Percentage of individuals aged										
		18 to 24		25 to 34		35 to 44		45 to 54		55 to 64		
	Economic region	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	Mean absolute deviation
	number					percent						value
Ontario												
Ottawa	31	16.3	16.0	21.9	22.1	26.1	25.3	24.7	24.6	11.0	11.9	0.5
Kingston–Pembroke	32	16.6	17.3	20.2	20.7	25.7	24.7	25.1	24.5	12.3	12.7	0.7
Muskoka–Kawarthas	33	16.3	17.7	17.0	18.2	25.1	23.6	27.5	26.1	14.1	14.3	1.1
Toronto	34	15.5	15.4	24.2	24.1	27.0	26.6	22.6	22.6	10.7	11.3	0.3
Kitchener–Waterloo–Barrie	35	17.3	17.3	22.1	22.3	26.6	25.7	23.2	23.1	10.8	11.6	0.4
Hamilton–Niagara Peninsula	36	16.8	17.0	20.6	20.9	25.7	24.7	24.8	24.4	12.2	12.9	0.5
London	37	18.6	18.1	21.4	21.8	24.6	24.1	23.7	23.6	11.7	12.3	0.4
Windsor–Sarnia	38	17.2	18.2	22.0	21.8	25.6	24.6	24.2	23.8	11.0	11.5	0.6
Stratford–Bruce Peninsula	39	17.7	19.4	17.9	18.6	23.5	22.4	26.7	25.3	14.2	14.3	1.0
Northeast	40	15.9	17.3	19.9	20.3	26.7	25.1	26.3	25.6	11.2	11.7	0.9
Northwest	41	16.6	16.7	20.4	19.7	25.8	25.0	26.2	26.4	10.9	12.2	0.6
Manitoba												
Southeast	42	17.7	19.3	18.4	19.8	26.6	24.9	25.7	23.9	11.6	12.0	1.4
South Central and North Central	43	18.0	22.4	19.2	20.7	26.0	22.9	24.7	22.4	12.0	11.7	2.3
Southwest	44	18.6	19.9	20.7	20.5	24.5	22.4	22.7	24.1	13.4	13.2	1.0
Winnipeg	45	17.6	16.9	22.3	22.0	24.0	23.6	24.4	24.4	11.8	13.0	0.5
Interlake	46	13.8	16.0	15.9	16.8	27.8	25.6	29.3	27.6	13.2	14.0	1.6
Parklands and North	47	15.3	17.3	22.2	22.4	26.9	24.5	24.4	24.0	11.1	11.8	1.1
Saskatchewan												
Regina–Moose Mountain	48	18.7	18.8	21.7	21.7	24.0	23.1	24.1	24.6	11.4	11.8	0.4
Swift Current–Moose Jaw	49	16.1	20.3	18.5	19.0	25.2	22.4	27.1	25.3	13.2	13.0	1.9
Saskatoon–Biggar	50	20.5	19.9	21.6	21.9	23.7	23.0	23.9	24.2	10.3	11.1	0.5
Yorkton–Melville	51	14.1	19.5	17.3	17.2	24.2	22.4	29.1	25.8	15.3	15.1	2.2
Prince Albert and Northern	52	15.7	20.0	21.0	20.6	25.6	23.3	25.6	23.9	12.1	12.3	1.8
Alberta												
Lethbridge–Medicine Hat	53	20.5	21.2	20.4	21.4	23.7	22.2	23.9	23.2	11.5	12.0	0.9
Camrose–Drumheller	54	16.2	19.7	19.8	20.6	26.0	23.7	24.7	23.4	13.2	12.6	1.7
Calgary	55	17.8	17.5	25.1	25.2	24.7	24.1	22.7	22.7	9.7	10.4	0.3
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56	19.3	21.0	23.3	23.6	25.3	23.7	22.2	21.6	9.9	10.1	0.8
Red Deer	57	20.2	21.5	21.5	22.1	24.5	23.1	23.7	22.8	10.0	10.5	0.9
Edmonton	58	19.6	18.7	22.7	23.0	23.8	23.5	23.0	23.3	10.9	11.4	0.5
Wood Buffalo–Cold Lake	59	18.2	20.1	24.2	24.4	26.8	25.5	22.5	22.2	8.3	8.0	0.8

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 5-3
Age distribution of female employees aged 18 to 64 in 2005, by economic region, CEEDD and 2006 Census data — British Columbia, Yukon, Northwest Territories, and Nunavut

		Percentage of individuals aged										
		18 to 24		25 to 34		35 to 44		45 to 54		55 to 64		
	Economic region	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	2006 Census data	CEEDD data	Mean absolute deviation
	number					percent						value
British Columbia												
Vancouver Island and Coast	60	15.8	16.8	18.8	19.2	24.4	22.8	27.2	26.7	13.8	14.4	0.8
Lower Mainland–Southwest	61	16.5	16.5	23.3	23.5	25.3	24.9	23.5	23.2	11.5	12.0	0.3
Thompson–Okanagan	62	16.0	17.9	17.6	18.4	24.9	23.5	27.6	26.3	13.9	13.9	1.1
Kootenay	63	13.7	16.4	17.1	18.4	25.4	23.0	29.8	27.7	14.0	14.5	1.8
Cariboo	64	15.6	18.1	20.1	20.3	25.8	24.4	26.3	25.3	12.2	11.8	1.1
North Coast and Nechako	65	14.1	17.0	20.1	19.8	26.9	25.6	25.7	25.6	13.2	12.1	1.2
Northeast	66	18.3	20.3	22.9	23.0	26.2	24.4	22.1	22.4	10.4	9.9	0.9
Yukon (Territory)												
Yukon Territory	67	14.5	15.1	22.0	21.7	24.6	24.4	27.0	25.8	11.9	12.9	0.7
Northwest Territories												
Northwest Territories	68	16.9	16.9	27.1	26.5	27.2	26.3	21.0	21.6	7.8	8.8	0.6
Nunavut												
Nunavut	69	18.6	20.3	30.2	29.9	27.2	26.0	17.4	15.8	6.6	8.0	1.2

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 6-1

Annual wages and salaries received in 2005 by employees aged 18 to 64, by economic region, CEEDD and 2006 Census data — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, and Quebec

		Annual wages and salaries								
		Average			Median			Percentage earning $100,000 or more		
	Economic region	2006 Census data	CEEDD data	Difference	2006 Census data	CEEDD data	Difference	2006 Census data	CEEDD data	Difference
	number	dollars		percent	dollars			percent		percentage points
Canada	...	39,047	38,352	-1.8	31,334	30,034	-4.1	4.0	3.9	-0.1
Newfoundland and Labrador										
Avalon Peninsula	1	32,667	30,841	-5.6	25,602	23,427	-8.5	2.8	2.4	-0.3
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2	24,771	23,465	-5.3	16,197	15,163	-6.4	1.4	1.2	-0.2
West Coast–Northern Peninsula–Labrador	3	28,964	27,672	-4.5	19,760	18,203	-7.9	1.9	1.8	-0.1
Prince Edward Island										
Prince Edward Island	4	27,949	26,834	-4.0	22,964	21,330	-7.1	1.1	1.0	-0.1
Nova Scotia										
Cape Breton	5	26,948	25,727	-4.5	20,554	19,131	-6.9	1.1	1.0	-0.2
North Shore	6	29,276	28,108	-4.0	24,133	22,476	-6.9	1.3	1.3	-0.1
Annapolis Valley	7	30,464	29,323	-3.7	25,619	24,338	-5.0	1.4	1.2	-0.2
Southern	8	28,093	26,779	-4.7	22,439	20,717	-7.7	1.2	1.1	-0.2
Halifax	9	36,689	36,323	-1.0	30,197	29,614	-1.9	3.1	3.2	0.1
New Brunswick										
Campbellton–Miramichi	10	26,121	24,628	-5.7	19,156	17,501	-8.6	1.1	0.8	-0.3
Moncton–Richibucto	11	30,772	30,298	-1.5	25,678	24,486	-4.6	1.8	1.7	-0.1
Saint John–St. Stephen	12	33,592	32,205	-4.1	27,248	25,637	-5.9	2.3	2.3	-0.1
Fredericton–Oromocto	13	32,637	32,466	-0.5	27,077	27,015	-0.2	1.8	1.8	0.0
Edmundston–Woodstock	14	28,653	26,836	-6.3	25,000	22,725	-9.1	1.0	0.8	-0.2
Quebec										
Gaspésie–Îles-de-la-Madeleine	15	24,678	22,847	-7.4	18,920	16,625	-12.1	0.8	0.5	-0.3
Bas-Saint-Laurent	16	28,570	27,072	-5.2	24,367	22,827	-6.3	0.8	0.8	-0.1
Capitale-Nationale	17	34,980	33,910	-3.1	30,284	29,522	-2.5	2.2	2.1	-0.1
Chaudière-Appalaches	18	31,629	30,450	-3.7	28,714	27,400	-4.6	1.3	1.2	0.0
Estrie	19	30,985	29,492	-4.8	27,059	25,430	-6.0	1.4	1.3	-0.1
Centre-du-Québec	20	29,770	28,442	-4.5	26,200	24,800	-5.3	1.1	1.0	-0.1
Montérégie	21	37,393	36,277	-3.0	31,646	30,501	-3.6	3.1	2.9	-0.1
Montréal	22	35,244	34,705	-1.5	27,302	26,103	-4.4	3.6	3.6	0.0
Laval	23	37,198	36,391	-2.2	31,442	30,592	-2.7	3.0	2.9	-0.1
Lanaudière	24	34,745	33,535	-3.5	30,608	29,213	-4.6	1.8	1.8	0.0
Laurentides	25	36,733	34,852	-5.1	30,879	29,048	-5.9	2.9	2.7	-0.2
Outaouais	26	39,391	37,790	-4.1	35,000	33,587	-4.0	2.9	2.4	-0.5
Abitibi-Témiscamingue	27	32,838	31,880	-2.9	28,333	26,483	-6.5	1.6	1.7	0.1
Mauricie	28	31,205	30,203	-3.2	25,880	24,719	-4.5	1.4	1.4	0.0
Saguenay–Lac-Saint-Jean	29	32,187	31,017	-3.6	27,008	25,167	-6.8	1.5	1.4	-0.1
Côte-Nord and Nord-du-Québec	30	35,167	34,901	-0.8	29,064	28,313	-2.6	1.9	2.2	0.2

... not applicable

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 6-2

Annual wages and salaries received in 2005 by employees aged 18 to 64, by economic region, CEEDD and 2006 Census data — Ontario, Manitoba, Saskatchewan, and Alberta

		Annual wages and salaries						Percentage earning $100,000 or more		
		Average			Median					
	Economic region	2006 Census data	CEEDD data	Difference	2006 Census data	CEEDD data	Difference	2006 Census data	CEEDD data	Difference
	number	dollars		percent	dollars			percent		percentage points
Ontario										
Ottawa	31	44,353	43,424	-2.1	37,167	35,977	-3.2	6.0	5.9	-0.2
Kingston–Pembroke	32	35,918	34,643	-3.5	30,980	29,481	-4.8	2.2	2.2	0.0
Muskoka–Kawarthas	33	37,102	35,666	-3.9	30,741	29,000	-5.7	3.1	2.8	-0.3
Toronto	34	44,913	45,084	0.4	35,018	33,790	-3.5	6.0	5.9	0.0
Kitchener–Waterloo–Barrie	35	41,670	40,889	-1.9	35,517	34,674	-2.4	4.1	4.0	-0.1
Hamilton–Niagara Peninsula	36	40,197	39,217	-2.4	33,609	32,239	-4.1	3.8	3.7	-0.1
London	37	38,566	37,796	-2.0	33,565	32,486	-3.2	3.0	2.9	-0.1
Windsor–Sarnia	38	40,823	38,745	-5.1	33,960	31,399	-7.5	4.8	4.3	-0.5
Stratford–Bruce Peninsula	39	37,045	36,039	-2.7	31,290	30,236	-3.4	3.3	3.3	-0.1
Northeast	40	37,187	35,611	-4.2	30,829	28,952	-6.1	2.9	2.8	-0.1
Northwest	41	37,246	37,062	-0.5	32,067	31,761	-1.0	2.5	2.6	0.0
Manitoba										
Southeast	42	34,201	32,242	-5.7	29,362	27,938	-4.9	1.6	1.3	-0.2
South Central and North Central	43	31,175	29,404	-5.7	27,201	24,800	-8.8	1.0	1.2	0.2
Southwest	44	31,353	30,480	-2.8	26,636	25,236	-5.3	1.4	1.2	-0.1
Winnipeg	45	35,244	34,349	-2.5	29,490	28,412	-3.7	2.5	2.4	-0.1
Interlake	46	37,266	36,019	-3.3	31,571	29,676	-6.0	2.8	2.7	-0.1
Parklands and North	47	31,068	30,669	-1.3	23,464	21,884	-6.7	2.1	2.4	0.2
Saskatchewan										
Regina–Moose Mountain	48	37,186	36,698	-1.3	31,787	30,811	-3.1	2.8	2.8	0.0
Swift Current–Moose Jaw	49	32,281	31,035	-3.9	27,283	25,012	-8.3	1.9	1.8	-0.1
Saskatoon–Biggar	50	35,153	35,315	0.5	29,116	28,432	-2.3	2.7	2.8	0.1
Yorkton–Melville	51	31,286	29,587	-5.4	26,142	24,000	-8.2	1.6	1.3	-0.3
Prince Albert and Northern	52	31,681	30,152	-4.8	25,991	24,000	-7.7	1.5	1.5	0.0
Alberta										
Lethbridge–Medicine Hat	53	37,559	36,371	-3.2	30,103	28,542	-5.2	3.3	3.3	0.0
Camrose–Drumheller	54	39,584	38,356	-3.1	31,490	30,206	-4.1	4.4	4.0	-0.4
Calgary	55	49,815	51,540	3.5	35,750	34,652	-3.1	8.1	8.6	0.5
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56	42,933	42,835	-0.2	33,411	31,754	-5.0	5.7	5.5	-0.1
Red Deer	57	42,526	41,949	-1.4	32,958	32,106	-2.6	5.9	5.8	-0.1
Edmonton	58	43,001	43,346	0.8	34,469	33,779	-2.0	5.5	5.8	0.3
Wood Buffalo–Cold Lake	59	55,078	54,248	-1.5	41,889	41,323	-1.4	16.0	15.6	-0.4

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 6-3

Annual wages and salaries received in 2005 by employees aged 18 to 64, by economic region, CEEDD and 2006 Census data — British Columbia, Yukon, Northwest Territories, and Nunavut

		Annual wages and salaries								
		Average			Median			Percentage earning $100,000 or more		
	Economic region	2006 Census data	CEEDD data	Difference	2006 Census data	CEEDD data	Difference	2006 Census data	CEEDD data	Difference
	number	dollars		percent	dollars			percent		percentage points
British Columbia										
Vancouver Island and Coast	60	36,680	36,059	-1.7	30,000	29,521	-1.6	2.9	2.8	-0.1
Lower Mainland–Southwest	61	39,213	39,257	0.1	31,332	30,307	-3.3	4.4	4.4	0.0
Thompson–Okanagan	62	35,088	34,460	-1.8	28,618	27,310	-4.6	2.6	2.7	0.1
Kootenay	63	35,459	34,252	-3.4	29,422	27,155	-7.7	2.3	2.1	-0.2
Cariboo	64	38,956	37,656	-3.3	33,204	31,166	-6.1	2.8	2.8	0.0
North Coast and Nechako	65	37,083	36,551	-1.4	30,083	29,445	-2.1	2.5	2.6	0.1
Northeast	66	44,655	44,883	0.5	35,829	35,652	-0.5	6.2	6.5	0.3
Yukon (Territory)										
Yukon Territory	67	40,869	39,263	-3.9	35,532	33,760	-5.0	3.4	3.1	-0.3
Northwest Territories										
Northwest Territories	68	49,820	46,740	-6.2	44,660	40,336	-9.7	7.8	7.2	-0.6
Nunavut										
Nunavut	69	41,659	37,156	-10.8	32,000	23,411	-26.8	6.9	6.3	-0.6

Note: Individuals with wages and salaries and no self-employment income in 2005.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 7
Unweighted Pearson correlation coefficients between earnings variables from the CEEDD and earnings variables from 2006 Census data, employees aged 18 to 64, 2005

	Mean annual wages and salaries	Median annual wages and salaries	Percentage of individuals earning $100,000 or more
Number of economic regions	69	69	69
Correlation coefficient	0.992	0.978	0.996

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Table 8
Hiring rate by province, employees aged 18 to 64, 2003 to 2011

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
					percent					
CEEDD										
2003	24.2	26.9	21.1	22.6	20.9	19.1	20.1	20.3	23.9	19.8
2004	25.9	22.6	20.9	22.2	20.9	19.6	20.2	20.4	25.7	22.0
2005	23.5	23.7	20.7	22.4	20.4	19.2	20.0	21.0	27.5	22.7
2006	26.0	24.3	20.9	22.6	20.5	19.3	21.2	22.4	28.4	23.3
2007	27.5	24.2	21.2	23.2	21.1	19.2	21.0	22.3	26.9	23.1
2008	26.6	22.8	20.6	23.0	20.4	18.6	20.4	23.0	25.5	21.8
2009	23.2	21.1	18.3	19.9	18.8	16.2	18.0	19.6	19.3	18.3
2010	23.3	22.2	21.1	20.0	19.3	17.8	18.2	19.7	21.9	19.1
2011	24.2	20.0	18.4	19.6	19.6	17.7	19.1	21.3	23.6	19.6
LFS										
2003	19.8	20.1	19.2	18.3	18.2	18.8	16.2	18.4	23.6	21.9
2004	19.2	18.2	19.4	19.8	17.4	18.8	18.7	18.2	23.2	22.0
2005	16.9	19.1	19.8	20.7	17.4	18.7	19.6	19.0	26.4	21.8
2006	21.8	20.9	21.8	20.7	19.9	19.1	19.5	22.0	29.2	23.0
2007	19.9	22.0	19.8	19.9	19.0	19.4	19.9	22.7	27.5	23.7
2008	19.3	23.1	19.6	21.8	17.4	18.4	20.2	20.8	25.5	21.5
2009	19.6	18.5	17.6	16.1	16.8	15.8	17.4	18.5	19.5	17.6
2010	19.8	21.4	18.4	16.1	18.2	17.6	17.0	18.0	23.1	18.1
2011	19.0	21.8	18.2	18.1	17.9	17.8	19.3	22.1	23.3	20.1

Note: When using administrative data, the numbers refer to individuals hired by at least one employer in year *t* and still working with one of these new employers in the following year. When using LFS data, the numbers refer to individuals who have 12 months of tenure or less as of January of year *t*+1. In both cases, the denominator equals average annual paid employment in year *t* and year *t*-1, as measured from the LFS.

Source: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Labour Force Survey (LFS).

Table 9
Unweighted Pearson correlation coefficients for province-specific hiring rates from the CEEDD and LFS, employees aged 18 to 64, 2003 to 2011

Province-specific hiring rates	Unweighted Pearson correlation coefficient
Across all provinces and years (N=90)	0.674
Across all years within provinces (N=9)	
Newfoundland and Labrador	0.363
Prince Edward Island	-0.018
Nova Scotia	0.628
New Brunswick	0.831
Quebec	0.383
Ontario	0.961
Manitoba	0.567
Saskatchewan	0.825
Alberta	0.927
British Columbia	0.889
Across all provinces in a given year (N=10)	
2003	0.375
2004	0.551
2005	0.693
2006	0.819
2007	0.552
2008	0.542
2009	0.686
2010	0.710
2011	0.559

Note: N: number of observations.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Labour Force Survey (LFS).

Table 10
Permanent layoff rates from the CEEDD and SLID, employees aged 18 to 64, by province, 2003 to 2011

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
					percent					
CEEDD										
2003	16.6	15.2	8.8	11.7	7.3	4.4	5.2	5.8	5.8	6.6
2004	18.2	14.2	8.3	11.3	7.2	4.3	4.2	5.1	5.2	6.0
2005	17.1	12.7	7.9	10.3	6.5	4.1	3.9	5.0	4.7	5.4
2006	15.8	12.5	7.6	10.7	6.5	4.2	4.0	5.0	4.4	5.0
2007	16.2	11.4	7.2	9.9	6.5	4.3	3.7	4.3	4.0	4.9
2008	15.4	11.6	7.7	10.0	6.9	5.3	4.6	4.6	4.9	6.1
2009	15.1	15.8	9.7	10.1	7.1	5.7	4.7	5.2	6.6	6.8
2010	14.3	14.0	7.8	10.1	6.4	5.0	4.4	4.6	5.4	6.4
2011	14.8	11.5	7.7	10.0	6.4	5.0	4.5	4.8	5.1	5.9
SLID										
2003	14.6	14.2	9.7	11.5	9.2	7.3	7.8	6.5	8.0	6.9
2004	17.0	12.7	9.2	13.0	9.3	7.0	6.7	6.4	6.4	7.4
2005	17.9	13.5	8.4	9.2	9.6	6.6	5.0	4.8	4.5	5.5
2006	16.6	10.5	7.4	11.2	8.5	6.6	5.1	4.9	5.4	6.1
2007	14.2	8.1	7.1	9.4	7.5	6.2	4.3	4.9	6.1	5.7
2008	14.1	8.9	9.7	10.2	8.4	8.3	6.1	5.7	6.0	8.0
2009	14.4	12.7	8.5	8.1	9.0	9.1	6.7	6.8	8.6	9.8
2010	13.3	7.9	7.7	10.3	8.2	7.1	6.6	4.7	7.3	9.4
2011	12.6	11.7	7.7	11.2	7.9	6.4	6.5	5.6	5.3	7.4

Note: When using the CEEDD, the numbers show the number of persons permanently laid-off. When using SLID, the numbers show the number of persons laid-off due to the following reasons: (a) company moved, (b) company went out of business, (c) layoff/business slowdown (not caused by seasonal conditions, (d) temporary job/contract ended. In both cases, the denominator equals average paid employment in year *t* and year *t*-1, as measured from the Labour Force Survey.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Table 11
Unweighted Pearson correlation coefficients for province-specific permanent layoff rates from the CEEDD and SLID, employees aged 18 to 64, 2003 to 2011

Province-specific permanent layoff rates	Unweighted Pearson correlation coefficient
Across all provinces and years (N=90)	0.915
Across all years (N=9)	
Newfoundland and Labrador	0.797
Prince-Edward-Island	0.523
Nova-Scotia	0.514
New-Brunswick	0.681
Quebec	0.558
Ontario	0.803
Manitoba	0.905
Saskatchewan	0.675
Alberta	0.813
British Columbia	0.824
Across all provinces (N=10)	
2003	0.974
2004	0.978
2005	0.957
2006	0.954
2007	0.946
2008	0.911
2009	0.865
2010	0.714
2011	0.959

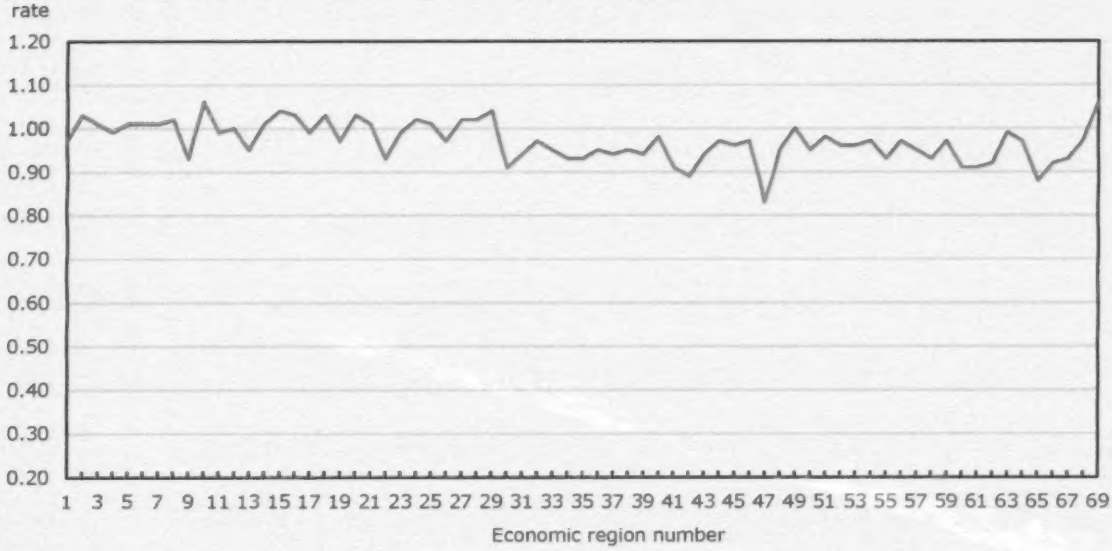
Note: N: number of observations.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Table 12
Number of workers laid-off and found in the same industry the following year, selected industries in Fredericton–Oromocto

	2005	2006	2007	2008	2009	2010	2011
				number			
Workers laid-off from education, health care or public administration in year *t*							
Education	110	141	135	105	130	153	147
Health care and social assistance	57	78	65	67	95	92	109
Public administration	122	513	1,695	390	2,004	2,173	632
Individuals found in the same three-digit industry in year *t*+1							
Education	19	22	34	21	21	27	30
Health care and social assistance	11	13	14	17	15	19	20
Public administration	4	242	1351	13	1420	1642	8

Source: Statistics Canada, Canadian Employer–Employee Dynamics Database.

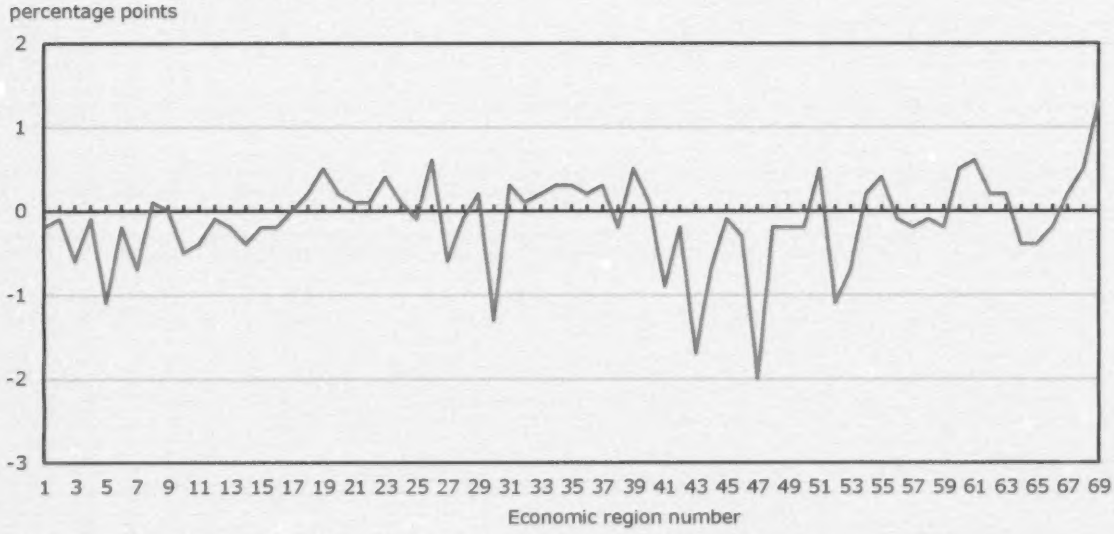
Chart 1
Number of employees aged 18 to 64 in 2005 in CEEDD data relative to those in 2006 Census data, by economic region



Note: For a list of economic regions by number, see Appendix 2.

Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

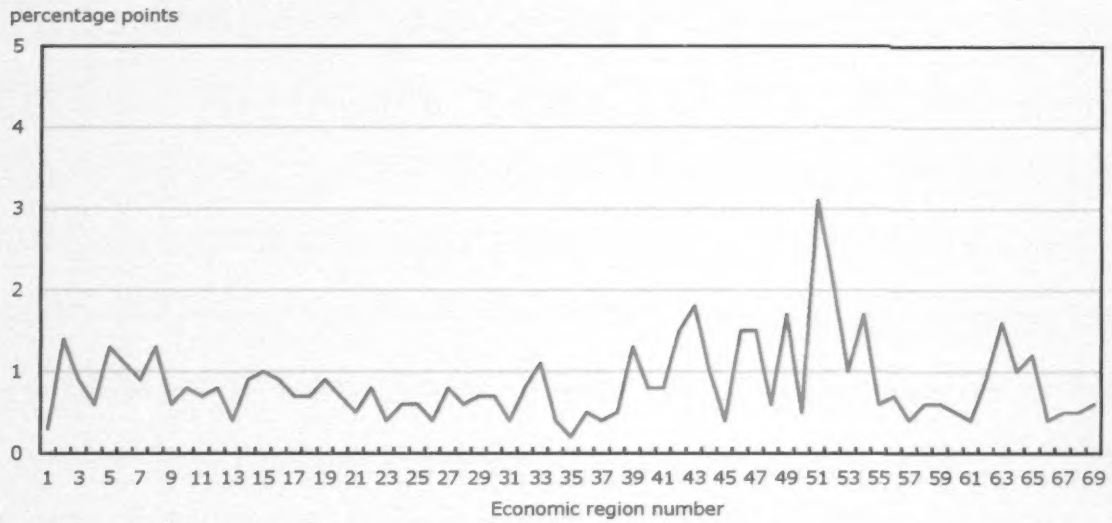
Chart 2
Percentage-point difference between the proportion of female employees in CEEDD data and the proportion of female employees in 2006 Census data, by economic region



Note: Employees aged 18 to 64 in 2005. For a list of economic regions by number, see Appendix 2.

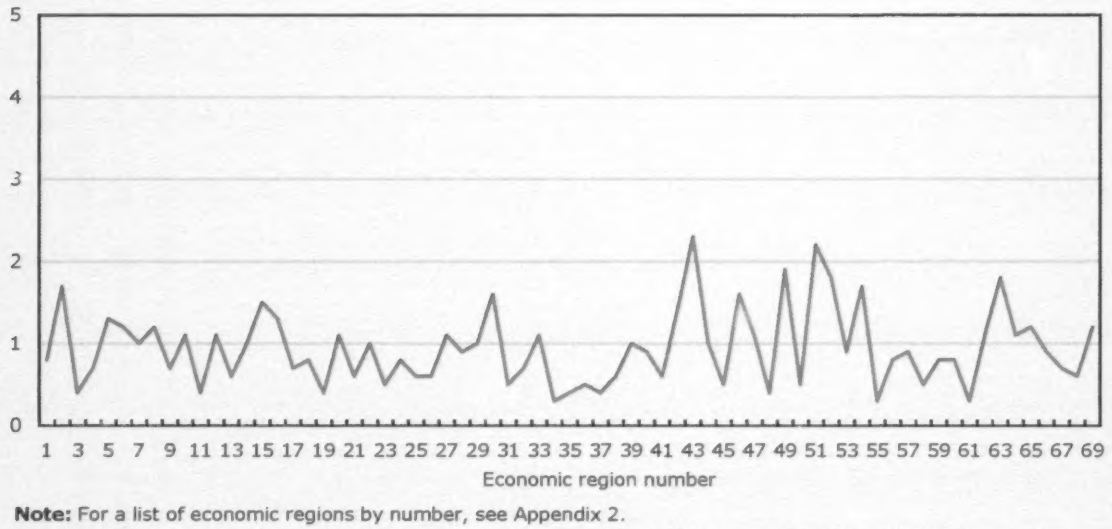
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 3
Mean absolute deviation of age distributions of male employees aged 18 to 64, CEEDD and 2006 Census data, by economic region, 2005



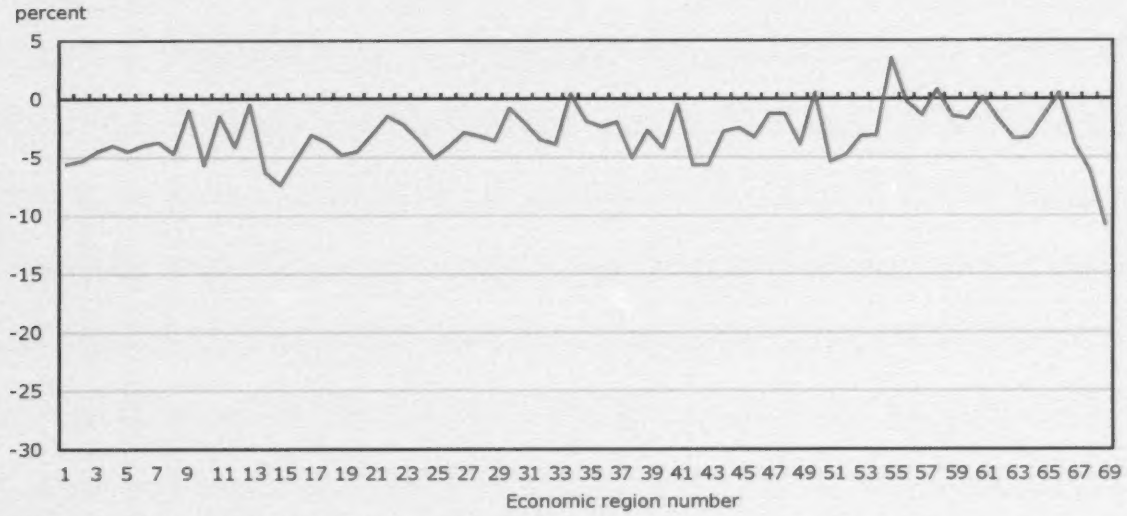
Note: For a list of economic regions by number, see Appendix 2.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 4
Mean absolute deviation of age distributions of female employees aged 18 to 64, CEEDD and 2006 Census data, by economic region, 2005



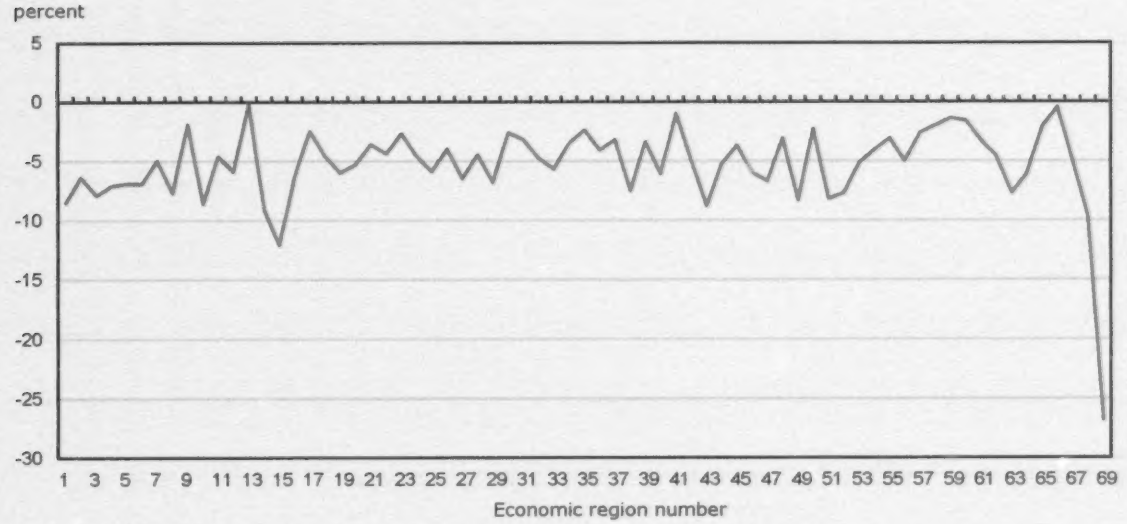
Note: For a list of economic regions by number, see Appendix 2.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 5
Percentage difference between average earnings of employees aged 18 to 64, CEEDD and 2006 Census data, by economic region, 2005



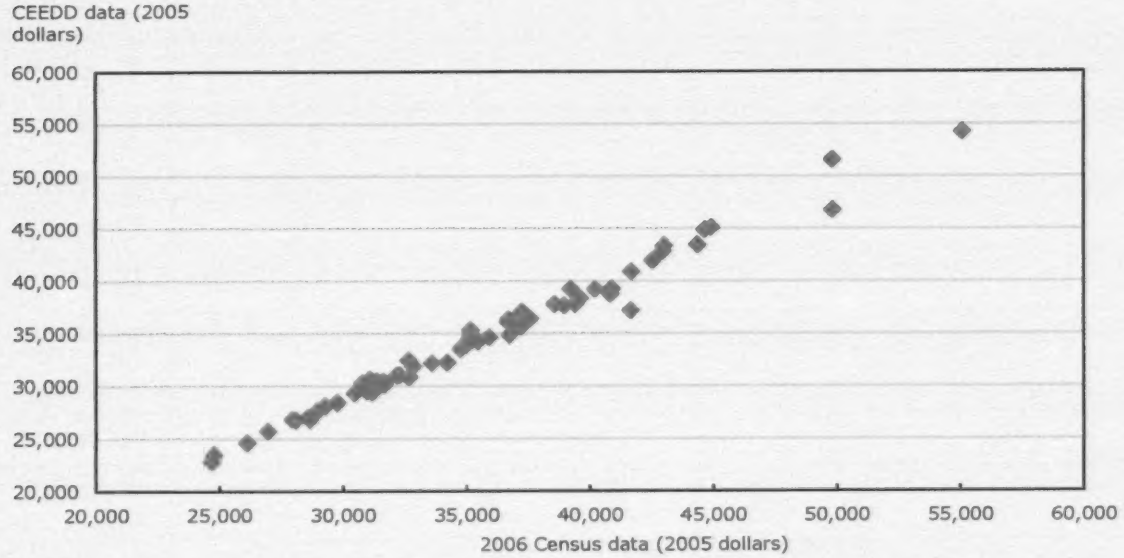
Note: For a list of economic regions by number, see Appendix 2.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 6
Percentage difference between median earnings of employees aged 18 to 64, CEEDD and 2006 Census data, by economic region, 2005



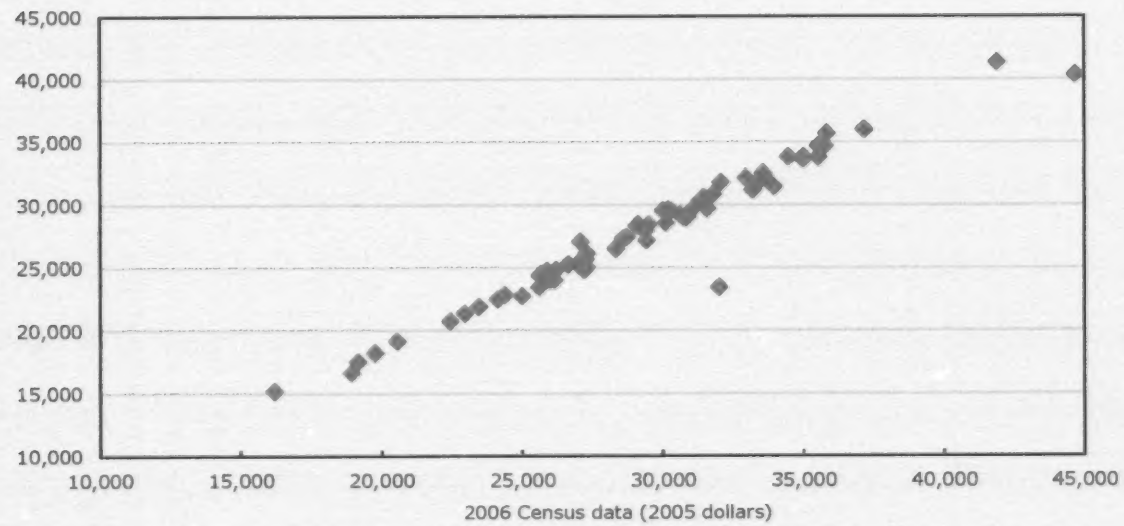
Note: For a list of economic regions by number, see Appendix 2.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 7
Average annual wages and salaries earned in 2005 by employees aged 18 to 64, CEEDD and 2006 Census data, by economic region



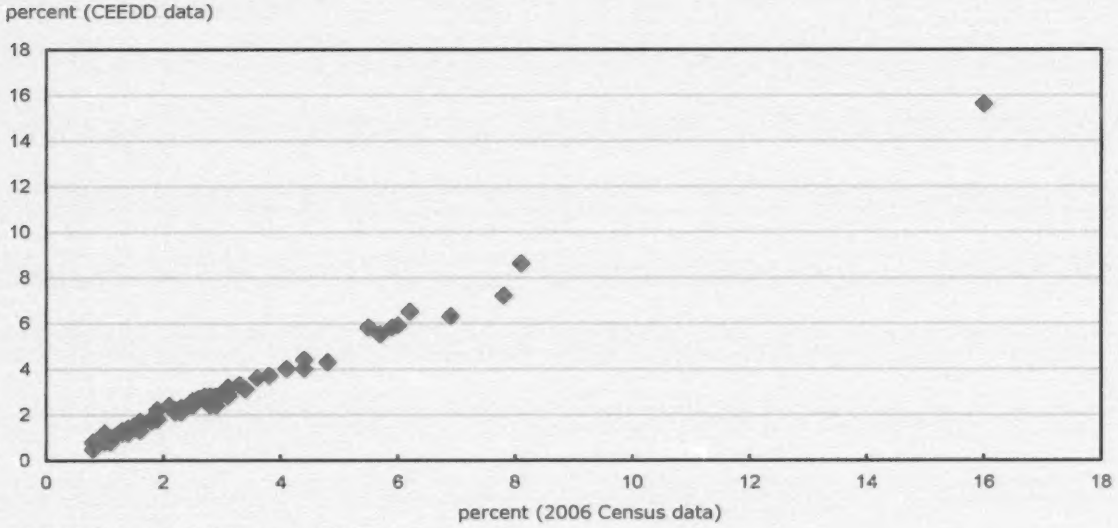
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 8
Median annual wages and salaries earned in 2005 by employees aged 18 to 64, CEEDD and 2006 Census data, by economic region



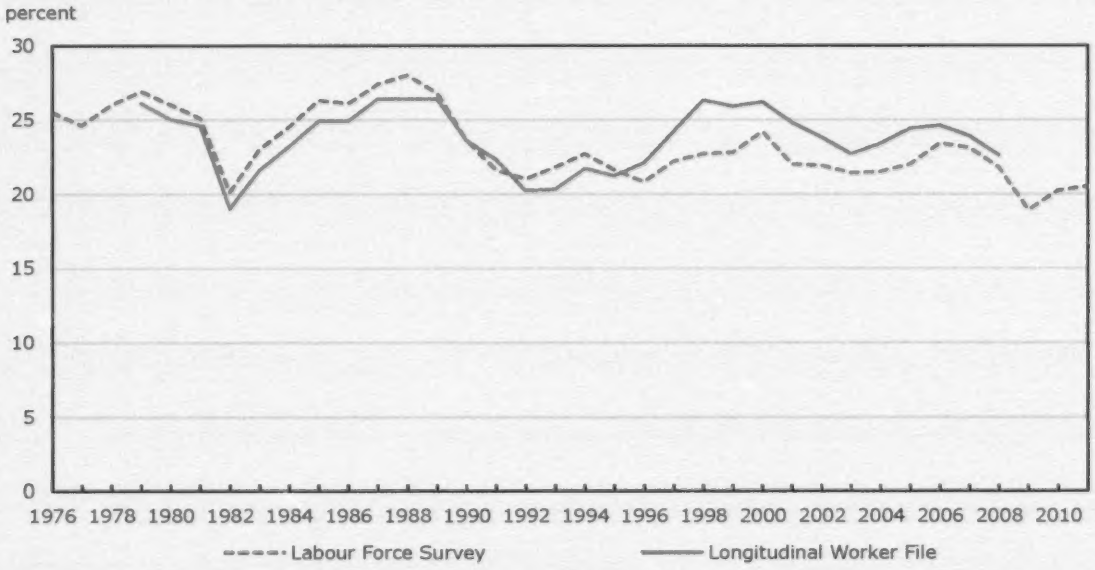
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 9
Percentage of employees aged 18 to 64 earning $100,000 or more in wages and salaries, CEEDD and 2006 Census data, by economic region, 2005



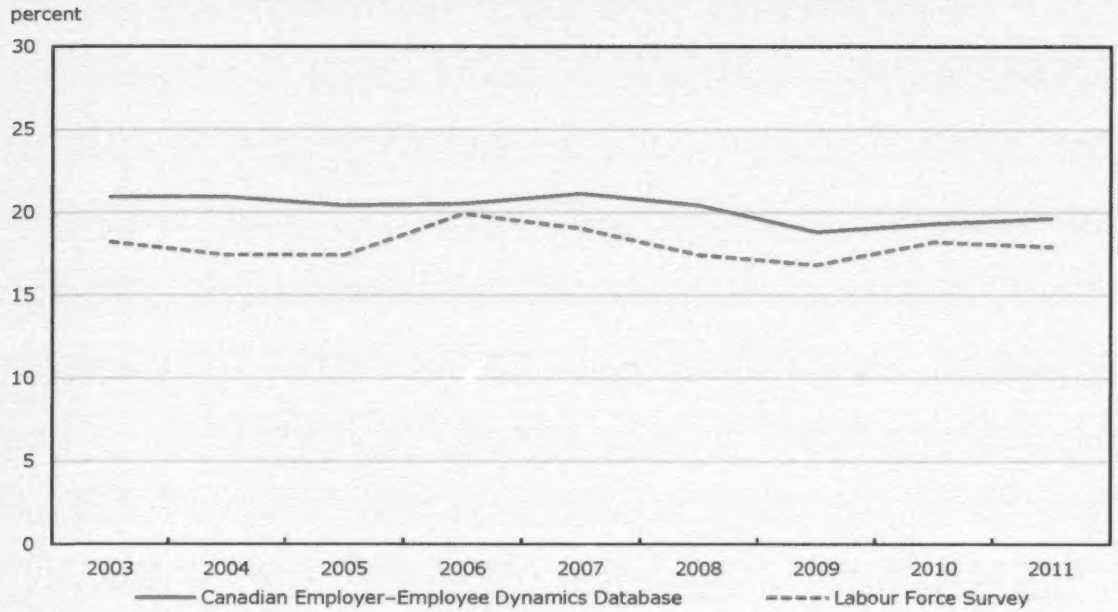
Note: Wages and salaries are in 2005 dollars.
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and 2006 Census of Population.

Chart 10
Percentage of employees aged 15 to 64 starting jobs with a new employer, 1976 to 2011



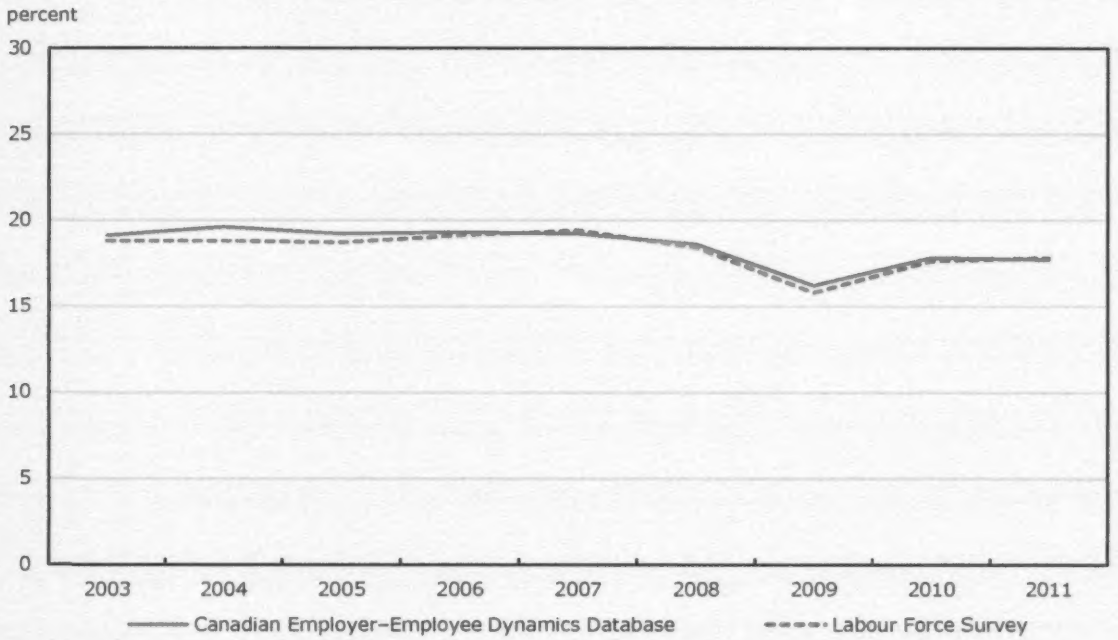
Note: In Morissette, Liu and Qiu (2013), Longitudinal Worker File data are available only from 1979 to 2008.
Source: R. Morissette, Y. Liu and T. Qiu. 2013. *Worker Reallocation in Canada,* Chart 2.

Chart 11
Hiring rates for employees aged 18 to 64, Quebec, 2003 to 2011



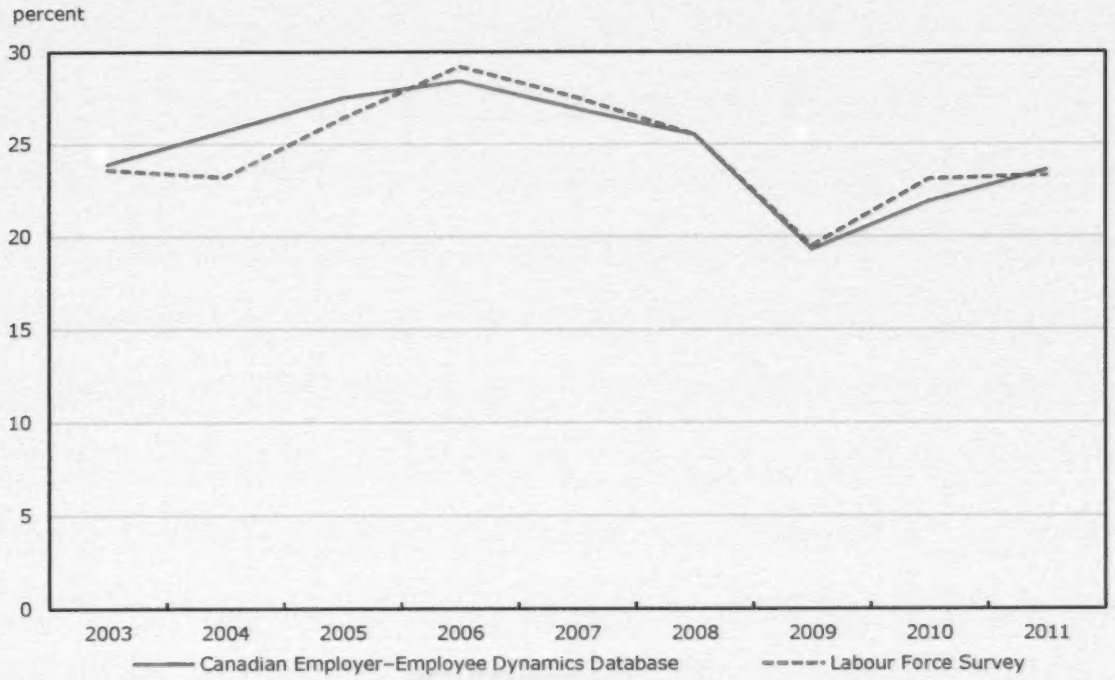
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database and Labour Force Survey.

Chart 12
Hiring rates for employees aged 18 to 64, Ontario, 2003 to 2011



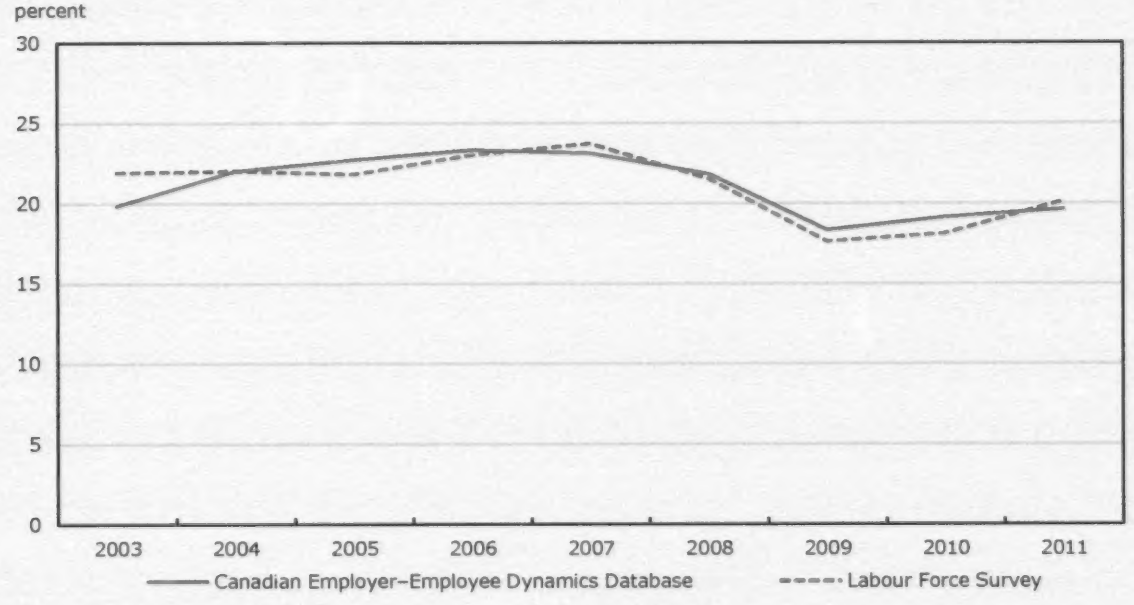
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database and Labour Force Survey.

Chart 13
Hiring rates for employees aged 18 to 64, Alberta, 2003 to 2011



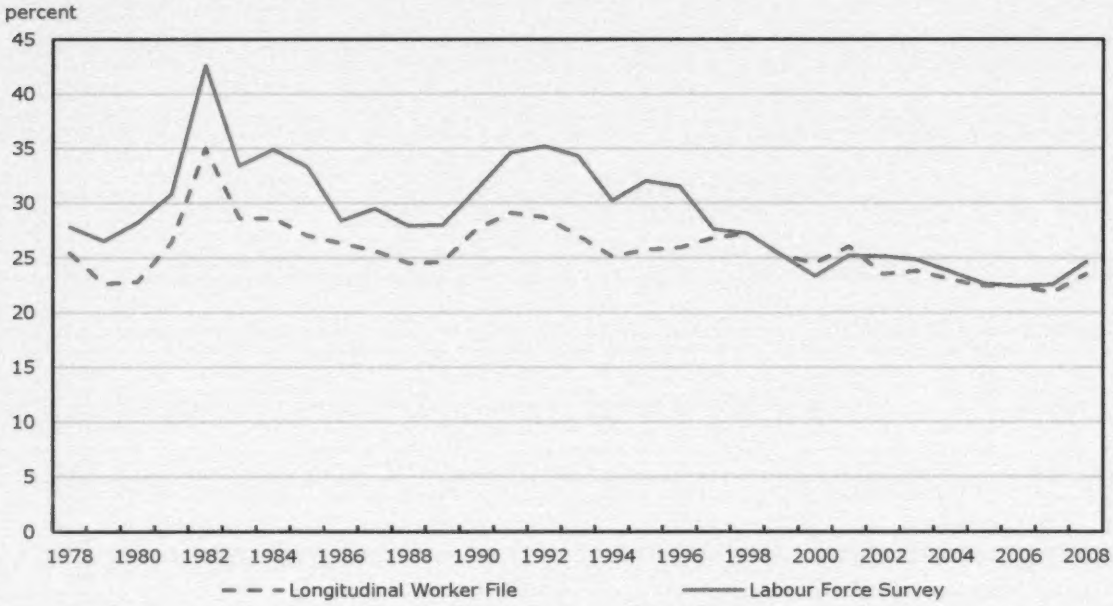
Source: Statistics Canada, Canadian Employer–Employee Dynamics Database and Labour Force Survey.

Chart 14
Hiring rates for employees aged 18 to 64, British Columbia, 2003 to 2011



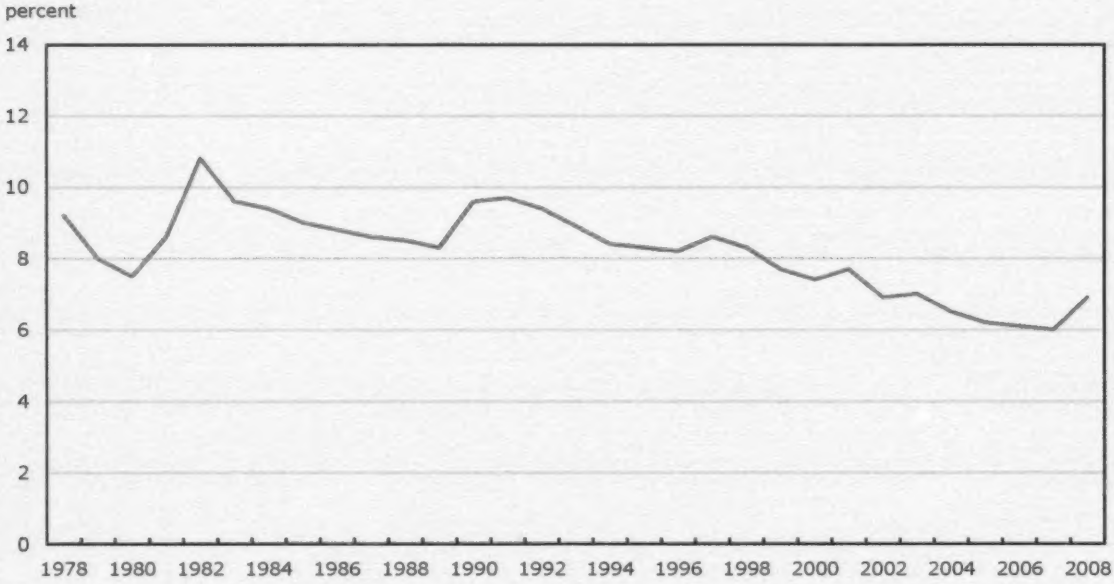
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database and Labour Force Survey.

Chart 15
Layoff rates for permanent and temporary layoffs, workers aged 15 to 64, LWF and LFS, 1978 to 2008



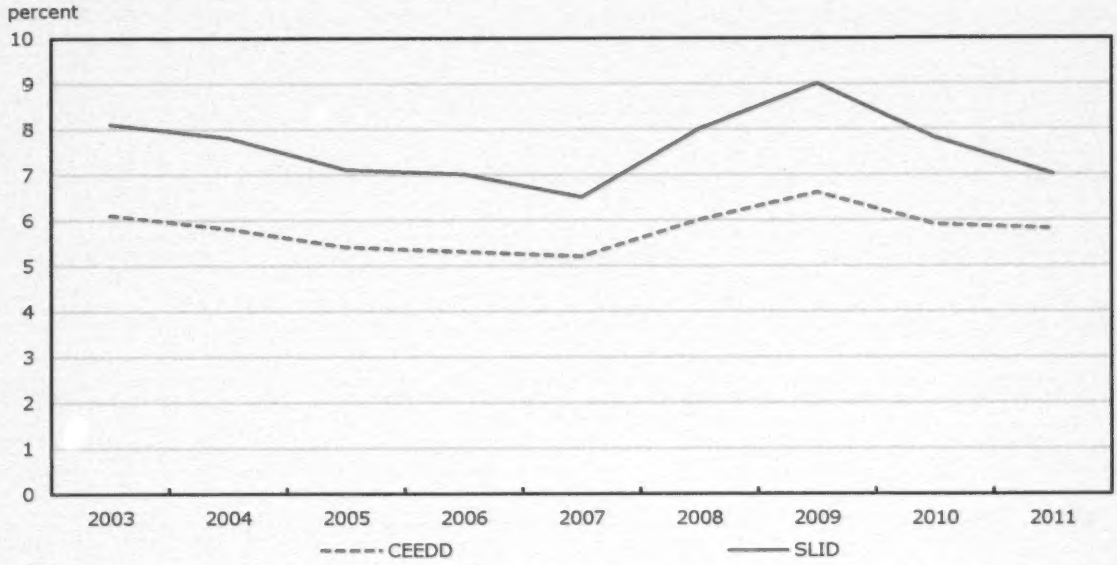
Sources: Statistics Canada, Longitudinal Worker File (LWF) and Labour Force Survey (LFS).

Chart 16
Layoff rates for permanent layoffs, paid workers aged 25 to 54, 1978 to 2008



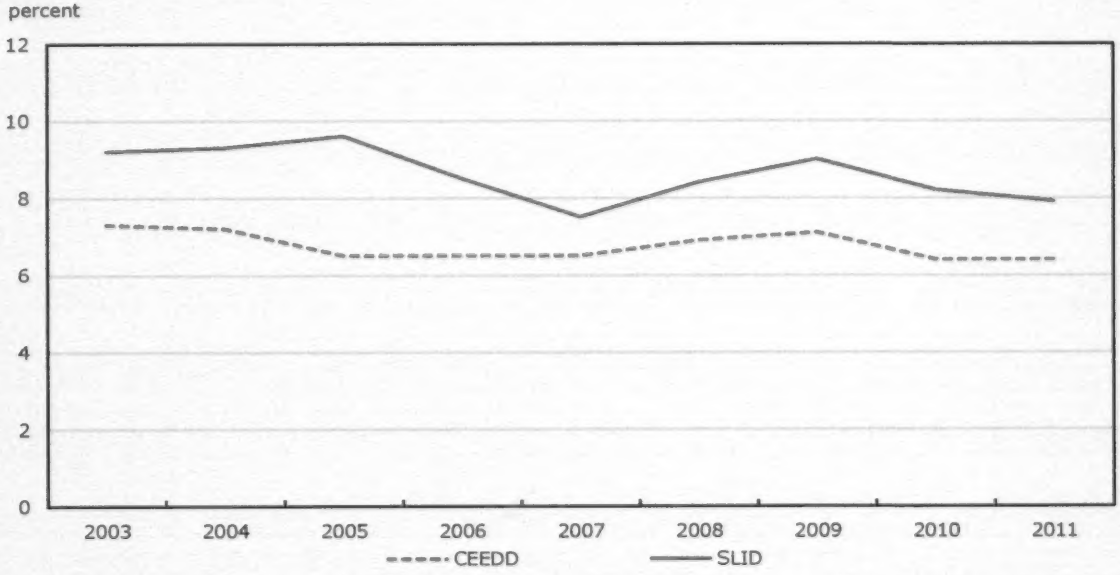
Source: R. Morissette, H. Qiu, and P.C.W. Chan, 2010, "The risk and cost of job loss in Canada, 1978–2008," Figure 1.

Chart 17
Permanent layoff rates for employees aged 18 to 64, CEEDD and SLID, 2003 to 2011



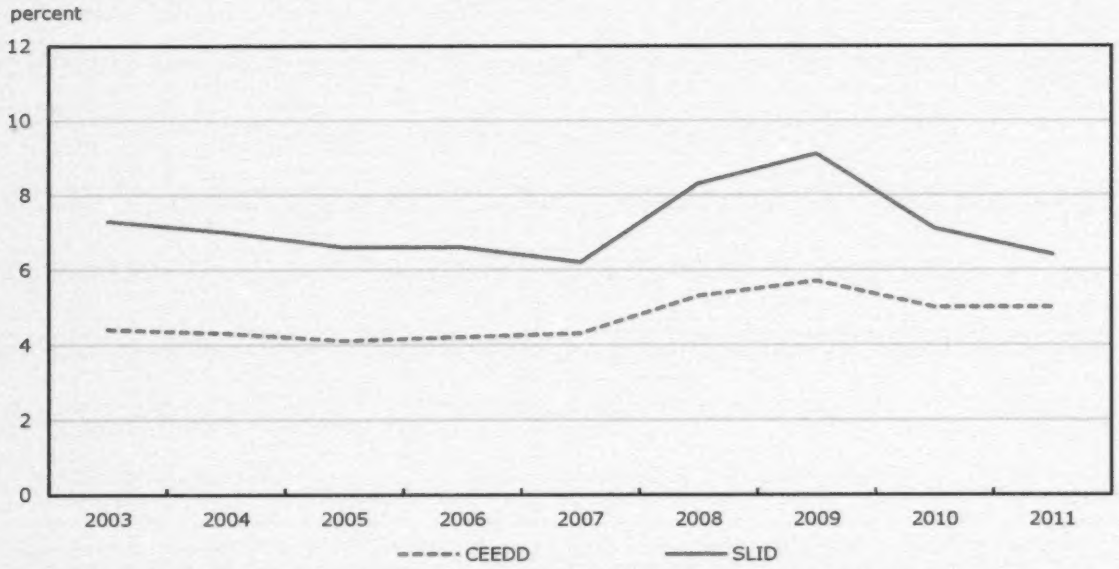
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Chart 18
Permanent layoff rates for employees aged 18 to 64, Quebec, 2003 to 2011



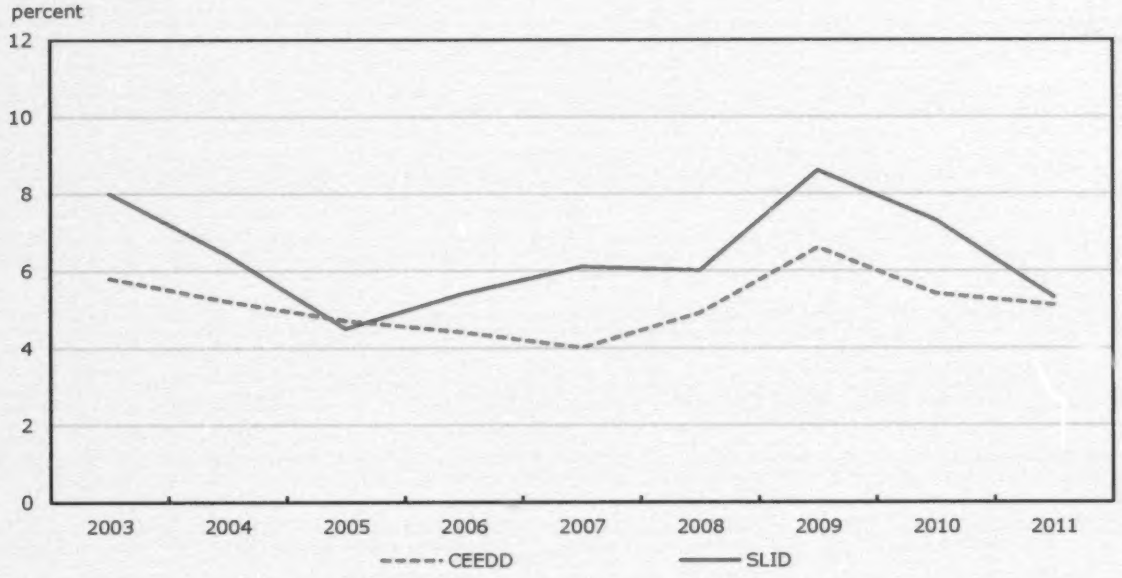
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Chart 19
Permanent layoff rates for employees aged 18 to 64, Ontario, 2003 to 2011



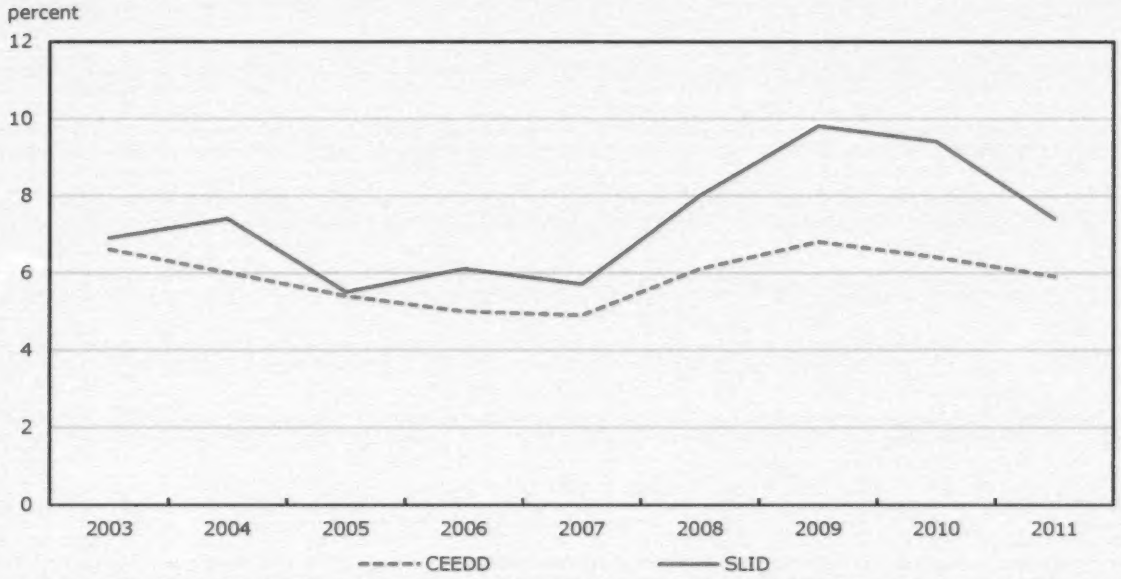
Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Chart 20
Permanent layoff rates for employees aged 18 to 64, Alberta, 2003 to 2011



Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Chart 21
Permanent layoff rates for employees aged 18 to 64, British Columbia, 2003 to 2011



Sources: Statistics Canada, Canadian Employer–Employee Dynamics Database (CEEDD) and Survey of Labour and Income Dynamics (SLID).

Appendix 1 Labour market indicators by economic region currently available on CANSIM

Appendix Table 1
Labour market indicators by economic region, CANSIM

Labour market indicator[1]	CANSIM table
	number
Total paid employment by industry	282-0125
Total paid employment by occupation	282-0157
Number of individuals in the labour force	282-0123
Number of paid workers	282-0123
Number of part-time workers,	282-0123
Number of unemployed individuals	282-0123
Number of individuals not in the labour force	282-0123
Unemployment rate	282-0123
Participation rate	282-0123
Employment rate	282-0123

1. All labour market indicators are based on data from the Labour Force Survey.

Source: Statistics Canada, Canadian Socio-Economic Information Management System (CANSIM).

Appendix 2 List of economic regions by number

Appendix Table 2-1
List of economic regions by number — Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario

Provinces and economic regions	Economic region number
Newfoundland and Labrador	
Avalon Peninsula	1
South Coast–Burin Peninsula and Notre Dame–Central Bonavista Bay	2
West Coast–Northern Peninsula–Labrador	3
Prince Edward Island	
Prince Edward Island	4
Nova Scotia	
Cape Breton	5
North Shore	6
Annapolis Valley	7
Southern	8
Halifax	9
New Brunswick	
Campbellton–Miramichi	10
Moncton–Richibucto	11
Saint John–St. Stephen	12
Fredericton–Oromocto	13
Edmundston–Woodstock	14
Quebec	
Gaspésie–Îles-de-la-Madeleine	15
Bas-Saint-Laurent	16
Capitale-Nationale	17
Chaudière-Appalaches	18
Estrie	19
Centre-du-Québec	20
Montérégie	21
Montréal	22
Laval	23
Lanaudière	24
Laurentides	25
Outaouais	26
Abitibi-Témiscamingue	27
Mauricie	28
Saguenay–Lac-Saint-Jean	29
Côte-Nord and Nord-du-Québec	30
Ontario	
Ottawa	31
Kingston–Pembroke	32
Muskoka–Kawarthas	33
Toronto	34
Kitchener–Waterloo–Barrie	35
Hamilton–Niagara Peninsula	36
London	37
Windsor–Sarnia	38
Stratford–Bruce Peninsula	39
Northeast	40
Northwest	41

Source: Statistics Canada, Canadian Socio-Economic Information Management System (CANSIM).

Appendix Table 2-2
List of economic regions by number — Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories and Nunavut

Provinces and economic regions	Economic region number
Manitoba	
Southeast	42
South Central and North Central	43
Southwest	44
Winnipeg	45
Interlake	46
Parklands and North	47
Saskatchewan	
Regina–Moose Mountain	48
Swift Current–Moose Jaw	49
Saskatoon–Biggar	50
Yorkton–Melville	51
Prince Albert and Northern	52
Alberta	
Lethbridge–Medicine Hat	53
Camrose–Drumheller	54
Calgary	55
Banff–Jasper–Rocky Mountain House and Athabasca–Grande Prairie–Peace River	56
Red Deer	57
Edmonton	58
Wood Buffalo–Cold Lake	59
British Columbia	
Vancouver Island and Coast	60
Lower Mainland–Southwest	61
Thompson–Okanagan	62
Kootenay	63
Cariboo	64
North Coast and Nechako	65
Northeast	66
Yukon (Territory)	
Yukon Territory	67
Northwest Territories	
Northwest Territories	68
Nunavut	
Nunavut	69

Source: Statistics Canada, Canadian Socio-Economic Information Management System (CANSIM).

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